

Service Manual

PIONEER
The Art of Entertainment

DEH-59/UC



ORDER NO.
CRT1809

HIGH POWER CD PLAYER WITH FM/AM TUNER

DEH-59

UC

| | |
|---------|----|
| DEH-52 | UC |
| DEH-525 | UC |
| DEH-49 | UC |
| DEH-42 | UC |
| DEH-425 | UC |
| DEH-225 | UC |
| DEH-523 | ES |
| DEH-323 | ES |
| DEH-223 | ES |

COMPACT
disc
DIGITAL AUDIO

- See the service manual CX-597(CRT1811) for the CD mechanism description, disassembly and circuit description.
- The CD mechanism employed in this model is one of CX-597 series.

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● CD Player Service Precautions

1. For pickup unit(CGY1070) handling, please refer to "Disassembly"(CX-597 Service Manual CRT1811).
During replacement, handling precautions shall be taken to prevent an electrostatic discharge(protection by a short pin).
2. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.

1. SAFETY INFORMATION

CAUTION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely; you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5). When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

2. SPECIFICATIONS

General

| | |
|--------------------------|---|
| Power source | 14.4 V DC (10.8 — 15.1 V allowable) |
| Grounding system | Negative type |
| Max. current consumption | 10.0 A |
| Dimensions | |
| (DIN) (chassis) | 178 (W) × 50 (H) × 150 (D) mm [7 (W) × 2 (H) × 5-7/8 (D) in.] |
| (nose) | 188 (W) × 58 (H) × 22 (D) mm [7-3/8 (W) × 2-1/4 (H) × 7/8 (D) in.] |
| (D) (chassis) | 178 (W) × 50 (H) × 155 (D) mm [7 (W) × 2 (H) × 6-1/8 (D) in.] |
| (nose) | 170 (W) × 48 (H) × 17 (D) mm [6-3/4 (W) × 1-7/8 (H) × 5/8 (D) in.] |
| Weight | 1.5 kg (3.3 lbs) |

Amplifier

| | |
|--|---|
| Continuous power output is 15 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD. | |
| Maximum power output | 35 W × 4 |
| Load impedance | 4 Ω (4 — 8 Ω allowable) |
| Preout output level/output impedance | 500 mV/ 1 kΩ |
| Tone controls | |
| (Bass) | ±12 dB (100 Hz) |
| (Treble) | ±12 dB (10 kHz) |
| Loudness contour | +10 dB (100 Hz), +7 dB (10 kHz) (volume: -30 dB) |

CD player

| | |
|---------------------------|---|
| System | Compact disc audio system |
| Usable discs | Compact disc |
| Signal format | Sampling frequency: 44.1 kHz Number of quantization bits: 16; linear |
| Frequency characteristics | 5 — 20,000 Hz (±1 dB) |
| Signal-to-noise ratio | 94 dB (1 kHz)(IHF-A network) |
| Dynamic range | 90 dB (1 kHz) |
| Number of channels | 2 (stereo) |

FM tuner

| | |
|---|---|
| Frequency range (UC) | 87.9 — 107.9 MHz |
| Frequency range (ES) | 87.5 — 108 MHz |
| Usable sensitivity | 11 dBf (1.0 V/75Ω, mono, S/N: 30 dB) |
| 50 dB quieting sensitivity | 16 dBf (1.7 V/75Ω, mono) |
| Signal-to-noise ratio | 70 dB (IHF-A network) |
| Distortion | 0.3% (at 65 dBf, 1 kHz, stereo) |
| Frequency response | 30 — 15,000 Hz (3 dB) |
| Stereo separation | 40 dB (at 65 dBf, 1 kHz) |
| Selectivity | 70 dB (2ACA) |
| Three-signal intermodulation (desire signal level) | 50 dBf (two undesire signal level: 110 dBf) |

AM tuner

| | |
|--------------------------|---------------------------|
| Frequency range (UC, ES) | 530 — 1,710 kHz |
| Frequency range (ES) | 531 — 1,602 kHz |
| Usable sensitivity | 18 V (25 dB) (S/N: 20 dB) |
| Selectivity | 50 dB (10 kHz) |

Note:

Specifications and the design are subject to possible modification without notice due to improvements.

3. OPERATION AND CONNECTION

Tuner Operation

Tuner Source and Band

- Push the **SOURCE** button or the **Tuner** button to select Tuner.

The Frequency appears on the display.

("Ⓢ") indicator lights when stereo station selected.)

- Use the **BAND** button to select the desired band.

(FM1, FM2, FM3, AM)

Manual and Seek Tuning

Both Manual (step-by-step) and Seek (automatic) tuning are available.

1. Press the **MANU** button to switch alternately between the Manual and Seek tuning modes.

The "MANU" indicator lights when Manual tuning is selected and turns OFF when Seek tuning is selected.

2. Press the (▶) button to tune the receiver to a higher frequency.

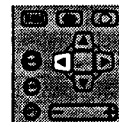
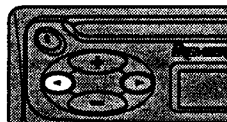
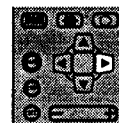
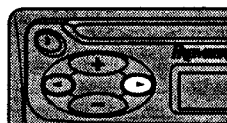
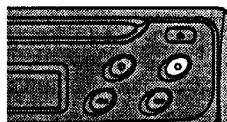
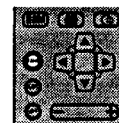
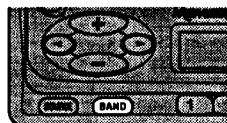
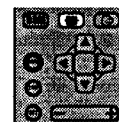
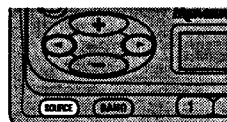
MANU ON (Manual tuning):

The frequency changes step by step.

MANU OFF (Seek Tuning):

The tuner automatically seeks out and receives broadcasting stations.

- Press the (◀) button to tune the receiver to a lower frequency.



Using the Built-in CD Player

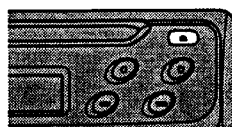
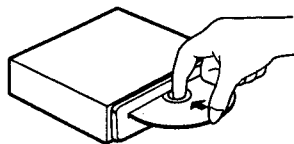
The built-in CD player plays one standard 12 cm or 8 cm (single) CD at a time. Do not use an adapter when playing 8 cm CD.

Inserting and Removing Discs

- Insert the disc with the recorded (iridescent) surface down.

CD playback begins immediately, whether or not the player is ON or the built-in CD source selected. The track number and playing time are displayed.

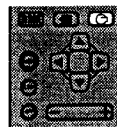
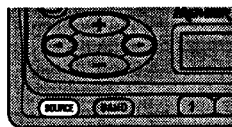
- Press the **Eject** button to eject any disc loaded in the disc slot.



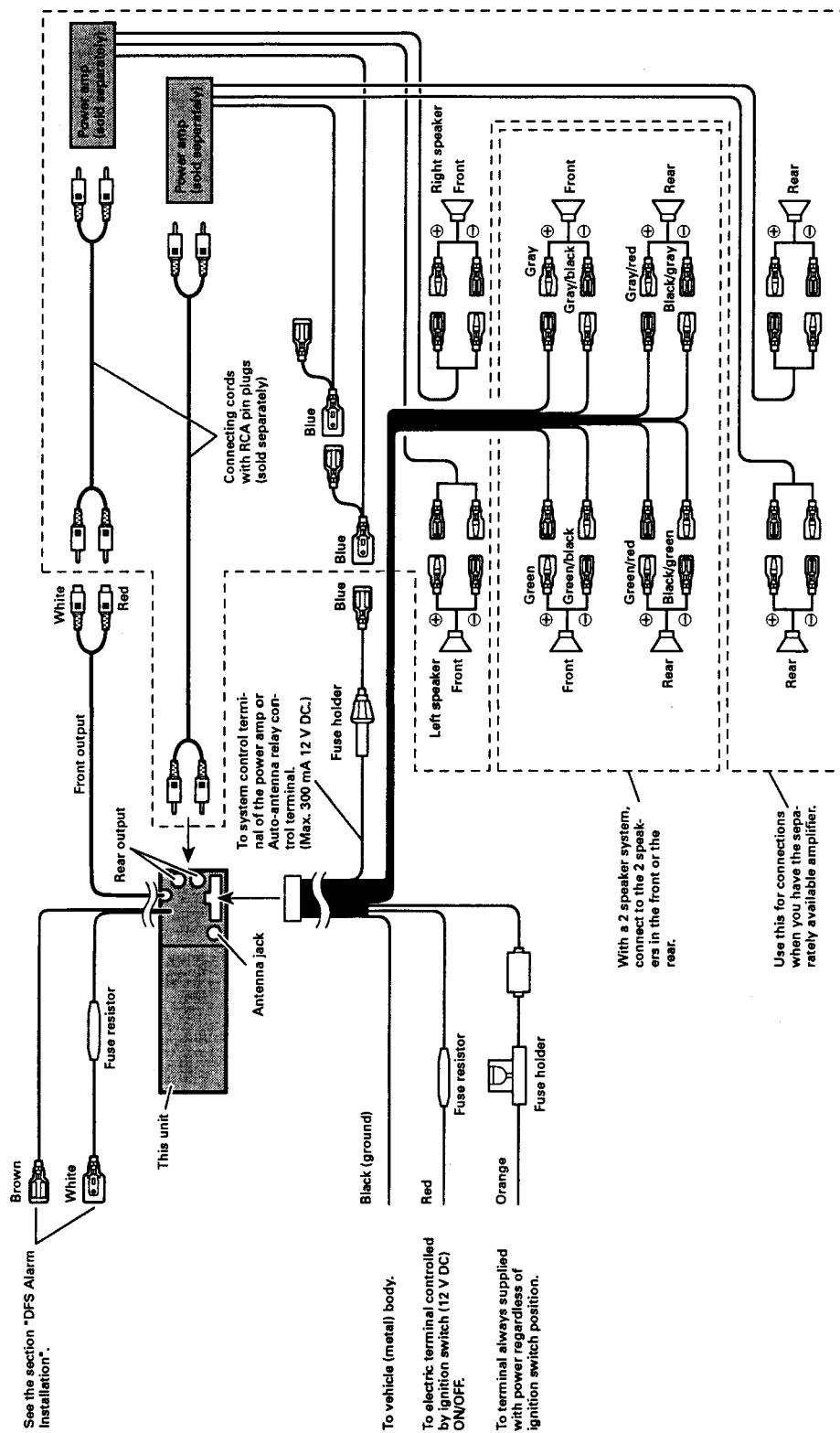
Playing the Built-in CD player

- To play a CD that is already loaded, press the **SOURCE** or **CD** button with a CD loaded to select the built-in CD player.

The built-in CD player is selected only when a CD is loaded.



● Connection Diagram



4. DISASSEMBLY

● Removing the Case(Not shown)

- 1.Remove the two screws.
- 2.Insert and turn a flat screwdriver at locations indicated by arrows to remove the case.

● Removing the Detach Grille Assy(Fig.1) (Except for DEH-225/UC and DEH-223/ES)

- 1.Press the detach button, and then pull detach grille assy.

● Removing the Panel Assy(Fig.1) (Except for DEH-225/UC and DEH-223/ES)

- 1.Disconnect the two stoppers indicated by arrows, and then remove the panel assy.

● Removing the CD Mechanism Module(Fig.1,2)

- 1.Remove the four screws.
- 2.Disconnect the connector.
- 3.Remove the CD mechanism module.

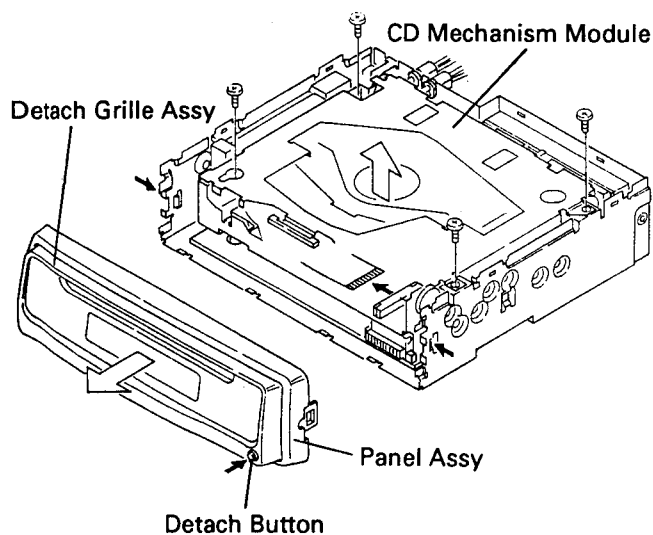


Fig.1

● Removing the Grille Assy(Fig.2) (DEH-225/UC and DEH-223/ES)

- 1.Disconnect the connector.
- 2.Disconnect the two stoppers indicated by arrows, and then remove the grille assy.

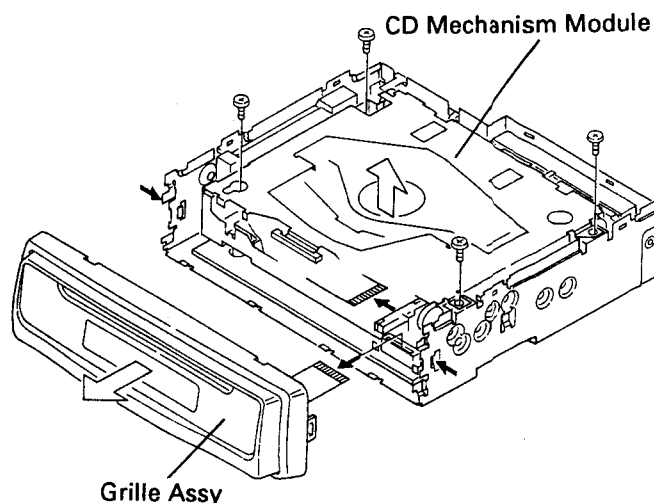


Fig. 2

● Removing the Chassis Unit(Fig.3)

- 1.Remove the screw A, two screws B, screw C and two screws D.
- 2.Stretch the claw.
- 3.Remove the two cords, and then remove the chassis Unit.

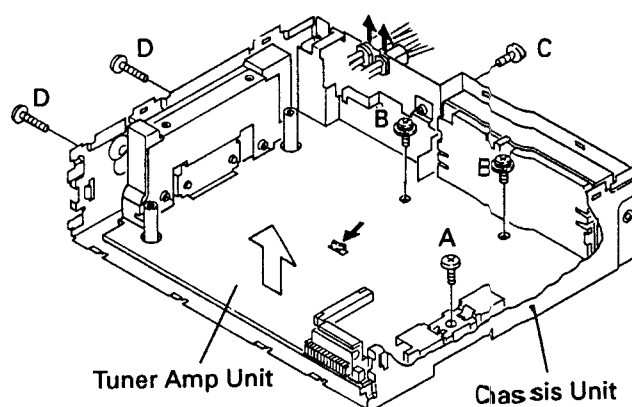


Fig. 3

5. ADJUSTMENT

● Connection Diagram

NOTE:

Select C1 so that total capacity of 80pF is attained from the direction of the receiver jack.

Z: Output impedance of SSG.

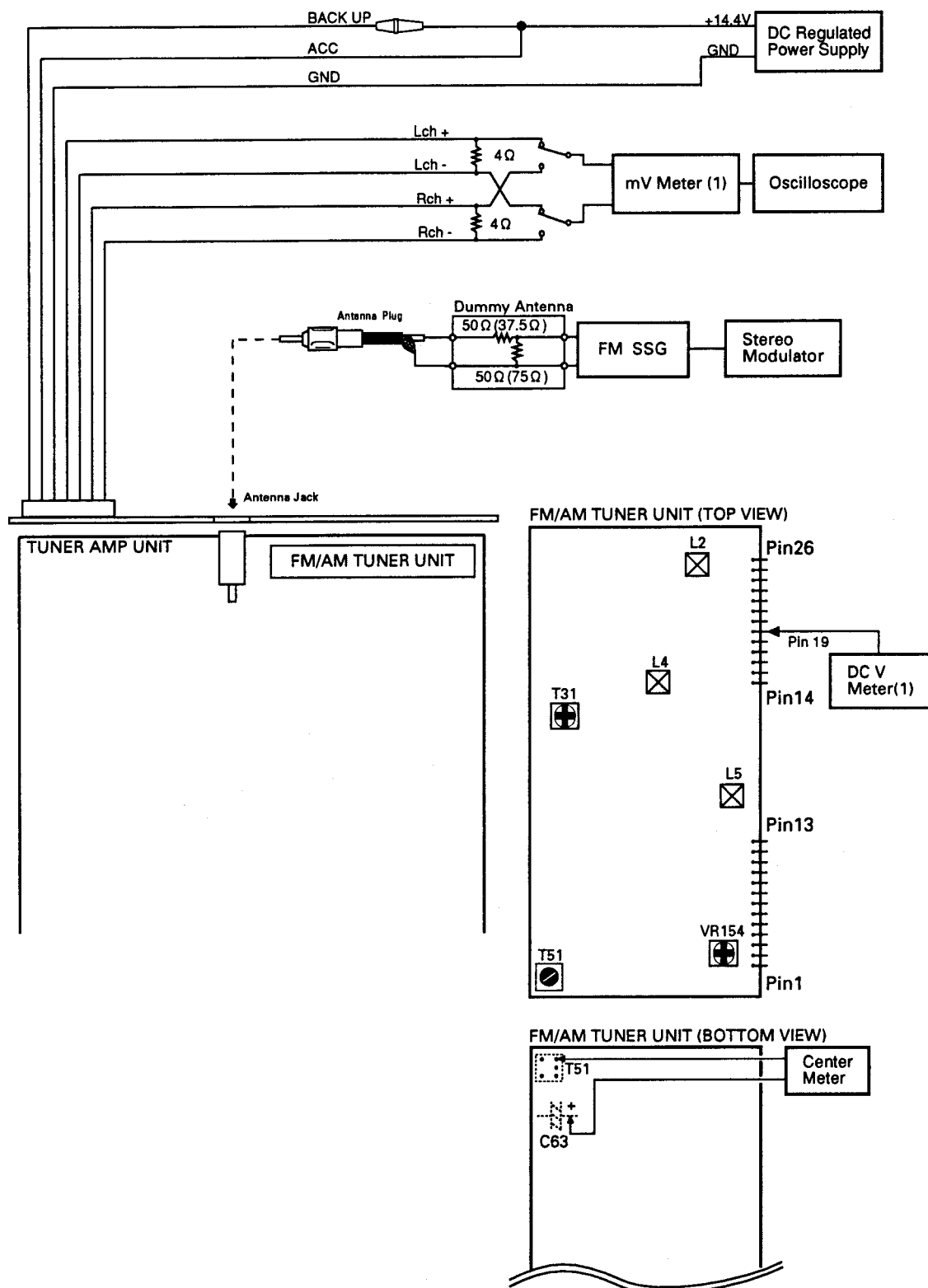


Fig. 4

FM ADJUSTMENT(UC MODEL)

Modulation M:MONO MOD., 400Hz 30%(22.5kHz Dev.)

S:STEREO MOD., 1kHz, L or R=30%(20.25kHz+7.5kHz Dev.)

NOTE:Before proceeding to further adjustments after switching power ON, let the tuner run for ten minutes to allow the circuits to stabilize.

| | No. | FM SSG | | Displayed Frequency(MHz) | Adjustment Point | Adjustment Method (Switch Position) |
|----------|-----|----------------|------------|-----------------------------|---------------------|---|
| | | Frequency(MHz) | Level(dBf) | | | |
| TUN Volt | 1 | ..... | ..... | 107.9 | L5 | DC V Meter(1) : 6V |
| IF | 1 | 98.1 M | 60 | 98.1 | T51 | Center Meter : 0 |
| ANT Coil | 1 | 98.1 M | 5 | 98.1 | L2 | mV Meter(1) : Maximum |
| RF Coil | 1 | 98.1 M | 5 | 98.1 | L4 | mV Meter(1) : Maximum |
| IFT | 1 | 98.1 M | 5 | 98.1 | T31 | mV Meter(1) : Maximum (STEREO MODE) |
| ARC | 1 | 98.1 S | 39 | 98.1 | VR154 | mV Meter(1) : Separation 5dB (STEREO MODE) |

FM ADJUSTMENT(ES MODEL)

| | No. | FM SSG | | Displayed Frequency(MHz) | Adjustment Point | Adjustment Method (Switch Position) |
|----------|-----|----------------|------------|-----------------------------|---------------------|---|
| | | Frequency(MHz) | Level(dBf) | | | |
| TUN Volt | 1 | ..... | ..... | 108.0 | L5 | DC V Meter(1) : 6V |
| IF | 1 | 98.1 M | 60 | 98.1 | T51 | Center Meter : 0 |
| ANT Coil | 1 | 98.1 M | 5 | 98.1 | L2 | mV Meter(1) : Maximum |
| RF Coil | 1 | 98.1 M | 5 | 98.1 | L4 | mV Meter(1) : Maximum |
| IFT | 1 | 98.1 M | 5 | 98.1 | T31 | mV Meter(1) : Maximum (STEREO MODE) |
| ARC | 1 | 98.1 S | 39 | 98.1 | VR154 | mV Meter(1) : Separation 5dB (STEREO MODE) |

6. TEST MODE

6.1 TEST MODE

1)Precautions

- This unit uses a single power supply (+5V) for the regulator. The signal reference potential, therefore, is connected to REFO(approx. 2.5V) instead of GND.

If REFO and GND are connected to each other by mistake during adjustments, not only will it be impossible to measure the potential correctly, but the servo will malfunction and a severe shock will be applied to the pick-up. To avoid this, take special note of the following.

Do not connect the negative probe of the measuring equipment to REFO and GND together. It is especially important not to connect the channel 1 negative probe of the oscilloscope to REFO with the channel 2 negative probe connected to GND.

Since the frame of the measuring instrument is usually at the same potential as the negative probe, change the frame of the measuring instrument to floating status.

If by accident REFO comes in contact with GND, immediately switch the regulator or power OFF.

- Always make sure the regulator is OFF when connecting and disconnecting the various filters and wiring required for measurements.
- Before proceeding to further adjustments and measurements after switching regulator ON, let the player run for about one minute to allow the circuits to stabilize.
- Since the protective systems in the unit's software are rendered inoperative in test mode, be very careful to avoid mechanical and /or electrical shocks to the system when making adjustment.
- Test mode starting procedure
Switch ACC, back-up ON while pressing the 4 and 6 keys together.

- Test mode cancellation
Switch ACC, back-up OFF.

- Disc detection during loading and eject operations is performed by means of a photo transistor in this unit. Consequently, if the inside of the unit is exposed to a strong light source when the outer casing is removed for repairs or adjustment, the following malfunctions may occur.

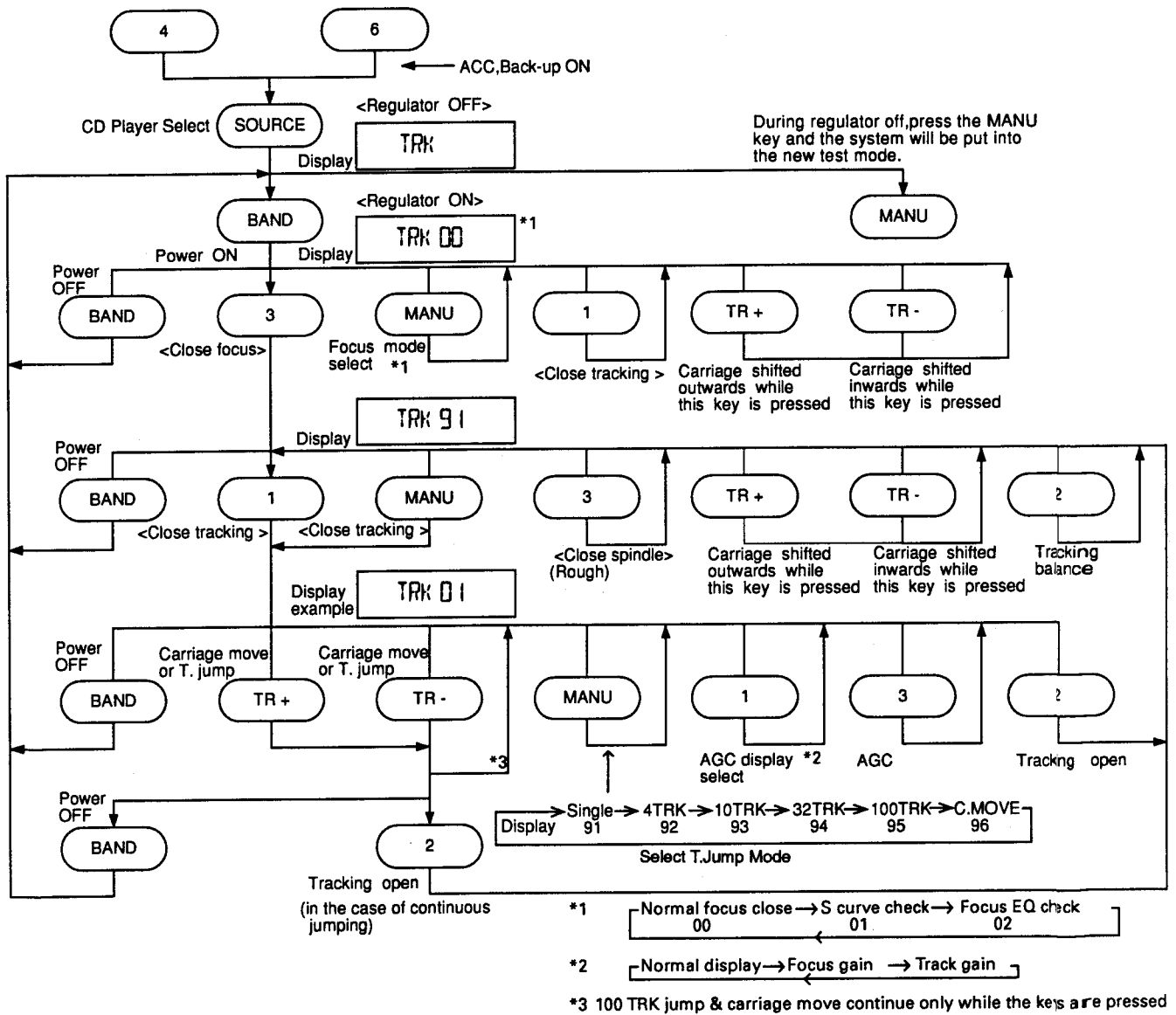
*During PLAY, even if the eject button is pressed, the disc will not be ejected and the unit will remain in the PLAY mode.

*The unit will not load a disc.

When the unit malfunctions this way, either re-position the light source, move the unit or cover the photo transistor.

- When loading and unloading discs during adjustment procedures, always wait for the disc to be properly clamped or ejected before pressing another key. Otherwise, there is a risk of the actuator being destroyed.
- Turn power off when pressing the button TR+ or the button TR- key for focus search in the test mode. (Or else lens may stick and the actuator may be damaged.)
- SINGLE/4TRK/10TRK/32TRK will continue to operate even after the key is released. Tracking is closed the moment C-MOVE is released.
- JUMP MODE resets to SINGLE as soon as power is switched off.

● Flow Chart



6.2 ERROR NUMBERS AND NEW TEST MODE

● Error Number Indication

If the CD should fail to operate or if an error has taken place during operation the player will enter into the error mode, and the cause of the error will be numerically indicated.

This is aimed at assisting in analysis or repair.

(1) Basic Means of Display

·With ERROR indicated in "MODE" on IP-BUS Display data, an error code is transmitted by the use of MIN and SEC.
The MIN and SEC data will be identical.

·Examples of Display ER-XX

(2) Error Codes

| Error Code | Classification | Description | Cause/Detail |
|------------|----------------|----------------------------------|---|
| 10 | ELECTRIC | Carriage home failure | Carriage doesn't move to or from the innermost position →Home switch failed and/or carriage immobile |
| 11 | ELECTRIC | Focus failure | Focus failed →Defects, disc upside-down, severe vibration |
| 12 | ELECTRIC | SETUP failure Subcode failure | Spindle failed to lock or subcode unreadable →Spindle defective, defect, severe vibration |
| 14 | ELECTRIC | Mirror failure | Unrecorded CD-R The disc is upside-down, defects, vibration |
| 17 | ELECTRIC | Set up failure | AGC protect failed →Defects, disc upside-down, severe vibration |
| 30 | ELECTRIC | Search time out | Failed to reach target address →Carriage/tracking defective and/or defects |
| A0 | SYSTEM | Power failure | Power overvoltage or short circuit detected →Switching transistor defective and/or power abnormal |

"defects" means scratches, dirt etc an the surface of the disc.

● New Test Mode(aging operation and setup analysis)

The single CD player plays in normal mode. After being set up, it will display FOK (focus), LOCK (spindle), subcode, sound skip, protection against a mechanical error or the like, occurrence of an error, cause and time of an expiry, if any, (and disc number).

During the setup, the CD software operation status (internal RAM and C-point)is displayed.

(1) How to enter NEW TEST Mode

See the test mode flow chart Page 11.

(2) Relations of keys between TEST and NEW TEST Modes

| Keys | Test Mode | | New Test Mode | |
|------|-------------------------|----------------|------------------|--|
| | Regulator OFF | Regulator ON | PLAY in progress | Error Occurred, Protection Activated |
| BAND | Regulator ON | Regulator OFF | — | Time of occurrence / cause of error select |
| TR+ | — | FWD-KICK | TRACK+ / FF | — |
| TR- | — | REV-KICK | TRACK- / REV | — |
| 1 | — | TRACKING CLOSE | SCAN | — |
| 2 | — | TRACKING OPEN | REPEAT | — |
| 3 | — | FOCUS CLOSE | RANDOM | — |
| MANU | To New Test Mode Select | FOCUS MODE | AUTO/MANU | TRACK No./ time of occurrence select |

Operations, such as EJECT, CD ON/OFF, etc. are performed normally.

(3) Error Cause (Error Number) Code

| Error Code | Classification | Mode | Description | Cause | Detail |
|------------|----------------|------|----------------------------|------------------------------|---|
| 40 | ELECTRIC | PLAY | FOK=L 100ms | Put out of focus | Scratch, Stain, Vibration, Servo defect, etc... |
| 41 | ELECTRIC | PLAY | LOCK=L 100ms | Spindle unlock | |
| 42 | ELECTRIC | PLAY | Subcode unacceptable 500ms | Failed to read subcode | |
| 43 | ELECTRIC | PLAY | Sound skipped | Last address memory operated | |

(4) Indicating an Operation Status During Setup

| Status No. | Description | Protection operation |
|------------|---|--|
| 01 | Carriage home mode started | None |
| 02 | Carriage moving inwards | 10-second time out, Home switch failed |
| 03 | Carriage moving outwards | 10-second time out, Home switch failed |
| 05 | Carriage moving outwards | None |
| 11 | Setup started | None |
| 12 | Spindle turn/Focus search started | None |
| 13 | Waiting for focus closure (XSI=L) | Failure to close focus |
| 10,14 | Waiting for focus closure (FOK=H) | Failure to close focus |
| 15, 16, 17 | Focus closed, Tracking open | Focus disrupted |
| 18 | During focus AGC Subcode waiting | Focus disrupted |
| 19 | During tracking AGC | Disrupted focus |
| 20 | Waiting for MIRR, LOCK or subcode read Carriage closed, SPINDLE=ADAPTIVE | Focus disrupted, MIRR NG, Failure to lock, Failed to read subcode |

(5) Example of Display.

·SET UP in progress
Auto

| |
|------|
| TNo. |
| 11 |

Manual

| | |
|-----|-----|
| Min | Sec |
| 11 | 11 |

· Operation (PLAY, SEARCH, etc.) in progress perfectly identical with that in the normal mode.

· Protection/Error upon occurrence

(a)Error number indicated

| |
|-------|
| ER-xx |
|-------|

Select the display with the BAND key.

(b)Track number indicated

| |
|------|
| TNo. |
| 10 |

(c)Absolute time indicated

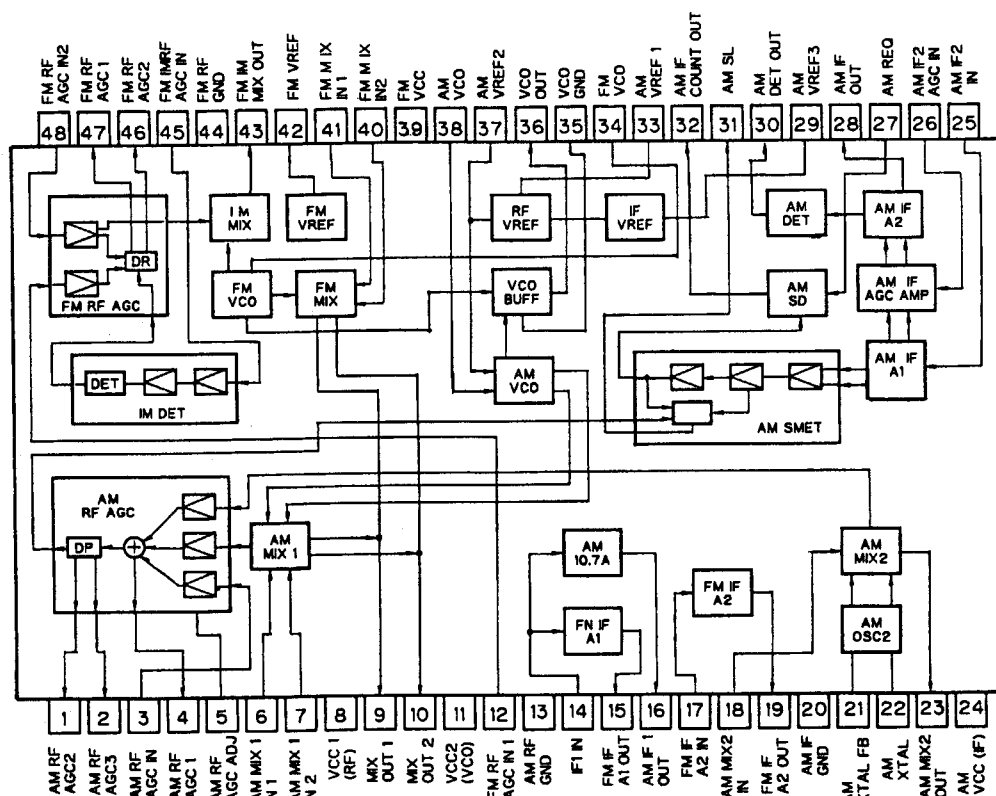
| | |
|-----|-----|
| Min | Sec |
| 40 | 05 |

Select the display with the MANU key.

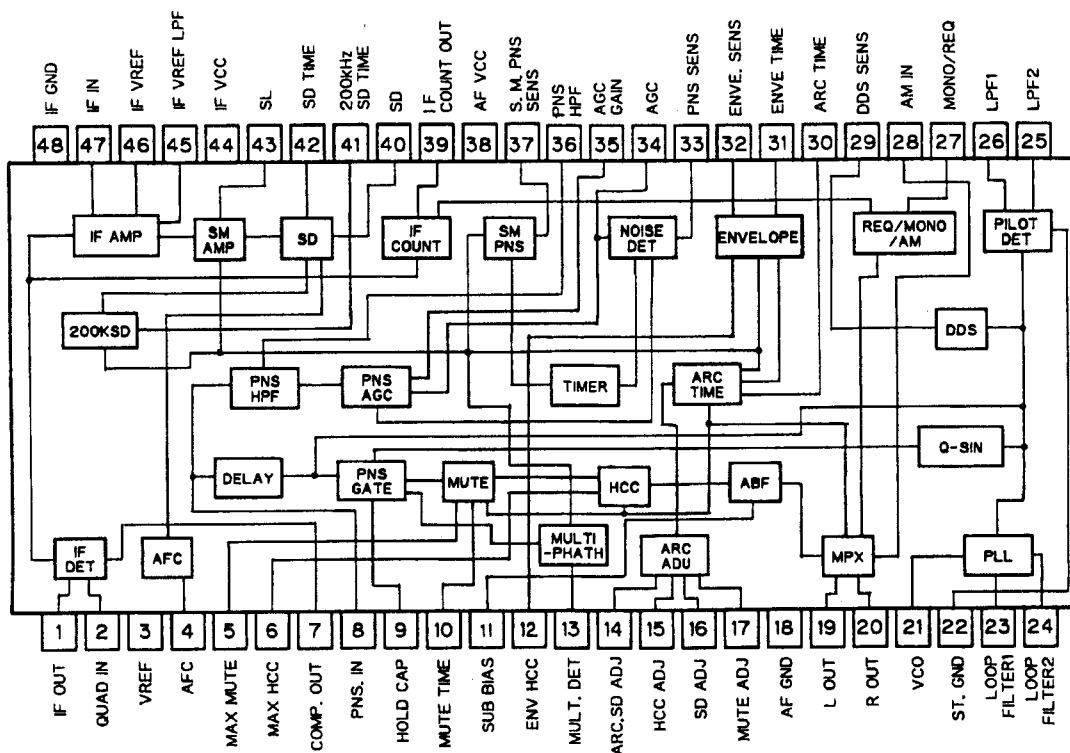
DEH-59,52,525,49,42,425,225,523,323,223

7. IC INFORMATION

PA4023A



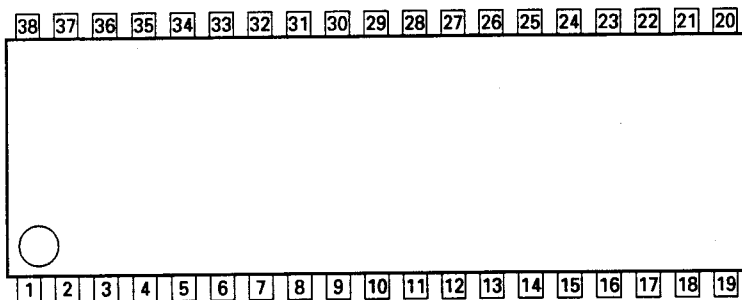
PA4024A



● Pin Functions (UPC2572GS)

| Pin No. | Pin Name | I/O | Function and Operation |
|---------|----------|-----|---|
| 1 | EFM-IN | I | EFM comparator input |
| 2 | AGC-OUT | O | AGC amplifier output |
| 3 | C. AGC | | Connects AGC peak detection condenser |
| 4 | RF-IN | I | RF signal DC component cut input |
| 5 | RF-OUT | O | RF amplifier output |
| 6 | RF- | I | RF amplifier inverted input |
| 7 | C1, 3T | | Connects RF3T component detection condenser |
| 8 | C2, 3T | | Connects RF3T component detection condenser |
| 9 | Vcc | | Power supply |
| 10 | A | I | A signal input |
| 11 | C | I | C signal input |
| 12 | B | I | B signal input |
| 13 | D | I | D signal input |
| 14 | F | I | F signal input |
| 15 | E | I | E signal input |
| 16 | PD | I | APC amplifier input |
| 17 | LD | O | APC amplifier output |
| 18 | LDON | I | Laser diode ON/OFF input |
| 19 | VREF-OUT | O | Reference voltage output |
| 20 | VREF-IN | I | Reference voltage input |
| 21 | DET-OUT | O | Vibration detection circuit output |
| 22 | DET-IN | I | Vibration detection circuit input |
| 23 | TE-OUT2 | O | Tracking error amplifier output (fourfold gain) |
| 24 | TE-OUT1 | O | Tracking error amplifier output (singlefold gain) |
| 25 | TE- | I | Tracking error amplifier inverted input |
| 26 | GND | | GND |
| 27 | FE- | I | Focus error amplifier inverted input |
| 28 | FE-OUT | O | Focus error amplifier output |
| 29 | C.FE | I | Focus error signal DC component cut input |
| 30 | 3T-OUT | O | RF3T component output |
| 31 | MIRR | O | MIRR signal output |
| 32 | RFOK | O | RFOK signal output |
| 33 | DEFECT | O | DEFECT signal output |
| 34 | C. DEF | | Connects DEFECT signal detection condenser |
| 35 | EFM-OUT | O | EFM comparator output |
| 36 | ASY | I | EFM comparator level input |
| 37 | TE-BAL | I | Tracking balance control |
| 38 | FE-BAL | I | Focus balance control |

UPC2572GS



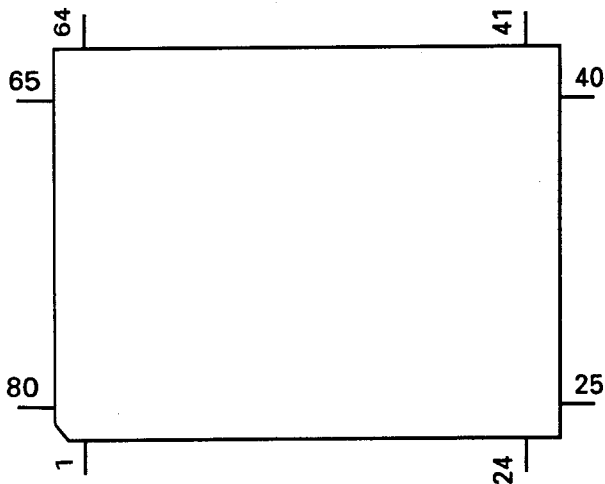
● **Pin Functions (UPD63702GF)**

| Pin No. | Pin Name | I/O | Function and Operation |
|---------|-----------|-----|---|
| 1 | D.VDD | | Supplies current of positive voltage to the logic circuits |
| 2 | RST | I | System reset input pin |
| 3 | AO | I | Microcomputer interface AO="L": STB active and set to address register AO="H": STB active and set to parameter |
| 4 | STB | I | Signal to latch serial data within the LSI |
| 5 | SCK | I | Clock input pin to input and output serial data |
| 6 | SO | O | Outputs serial data and status signal |
| 7 | SI | I | Serial data input pin |
| 8 | D.GND | | Logic circuit GND |
| 9 | X.GND | | Crystal oscillation circuit GND |
| 10 | XTAL | I | Crystal oscillator connection pin |
| 11 | XTAL | O | Crystal oscillator connection pin |
| 12 | X.VDD | | Supplies current of positive voltage to the crystal oscillation circuit |
| 13 | DA.VDD | | Supplies current of positive voltage to the D/A converter |
| 14 | R+ | O | Right channel analog audio data output pin |
| 15 | R- | O | Right channel analog audio data output pin |
| 16,17 | DA.GND | | D/A converter GND |
| 18 | L- | O | Left channel analog audio data output pin |
| 19 | L+ | O | Left channel analog audio data output pin |
| 20 | DA.VDD | | Supplies current of positive voltage to the D/A converter |
| 21 | D.VDD | | Supplies current of positive voltage to logic circuit |
| 22 | FLAG | O | Flag output pin to indicate that audio data currently being output consists of noncorrectable data |
| 23 | WDCK | O | Pin to output double the frequency of LRCK |
| 24 | C16M | O | Pin to output the clock |
| 25 | EMPH | O | Output pin for the pre-emphasis data in the sub-Q code |
| 26 | DIN | I | Input pin for serial audio data |
| 27 | DOUT | O | Output pin for the serial audio data |
| 28 | SCKO | O | Output pin for the clock for the serial audio data |
| 29 | LRCK | O | Signals to distinguish the right and left channels of the audio data output from DOUT. Frequency is 44.1kHz at 50% duty at normal regeneration |
| 30 | TX | O | Output pin for the digital audio interface data |
| 31 | CTLV | I | Oscillation control pin for high-frequency clock generation VCO used for the digital PLL upon regeneration at fast speed of 2- or 4-fold |
| 32 | POUT | O | Output point for phase comparison |
| 33 | D.GND | | GND for the logic circuit |
| 34 | VCO | I | Input pin for the inverter |
| 35 | VCO | O | Output pin for the inverter |
| 36 | D.VDD | | Supplies current of positive voltage to the logic circuit |
| 37 | PLCK | O | Pin for monitoring the bit clock |
| 38 | LOCK | O | Indicates "H" when the synchronized pattern detection signal matches the frame counter output at the EFM recovery modulation, and "L" when they don't match |
| 39 | WFCk | O | Minute-cycle signal for the bit clock, the signal indicates the cycle of 1 frame (approx. 7.35kHz) |
| 40 | RFCK | O | Minute-cycle signal for the clock, the signal indicates cycle of 1 frame (approx. 7.35kHz) |
| 41 | D.GND | | GND for the logic circuit |
| 42,43 | TEST0,1 | I | Test pins |
| 44,45 | TM2, TM4 | I | Pins for controlling regeneration at fast speed of 2- or 4-fold |
| 46-49 | T4-T7 | I | Test pins |
| 50,51 | C1D1,C1D2 | O | Output pin for indicating the C1 error correction results |
| 52-54 | C2D1-C2D3 | O | Output pin for indicating the C2 error correction results |
| 55 | D.VDD | | Supplies current of positive voltage to the logic circuit |
| 56 | SFSY | O | Outputs 1 word of the subcode. Generally, 1 cycle is approx 136 micro seconds |
| 57 | SBSY | O | The signal indicates the beginning of the subcode block. The SFSY signal is output at high level every 98 times |
| 58 | SBSO | O | Output pin for the subcode data |

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| Pin No. | Pin Name | I/O | Function and Operation |
|---------|----------|-----|---|
| 59 | SBCK | I | Input pin for the clock signal for read-out of the subcode data |
| 60 | A.GND | | GND for the analog circuit |
| 61 | MD | O | Output pin for the spindle drive |
| 62 | SD | O | Output pin for the sled drive |
| 63 | TD | O | Output pin for the tracking drive |
| 64 | FD | O | Output pin for the focus drive |
| 65 | FBAL | O | Output pin for the focus balance control |
| 66 | TBAL | O | Output pin for the tracking balance control |
| 67 | A.VDD | | Supplies current of positive voltage to the analog circuit |
| 68 | TBC | I | Switches coefficient banks for the tracking filter |
| 69 | EFM | I | Input pin for the EFM signal |
| 70 | HOLD | I | Input pin for the hold control signal |
| 71 | RFOK | I | Input pin for the RFOK signal |
| 72 | MIRR | I | Input pin for the MIRR signal |
| 73 | A.GND | | GND for the analog circuit |
| 74,75 | VR2,1 | I | The signal input through these pins is digitized to 8-bit by the A/D converter, which by operation of the assigned register, can be read into the microcomputer |
| 76 | FE | I | Inputs a focus-error signal from the RF amplifier |
| 77 | TE | I | Inputs a tracking-error signal from the RF amplifier |
| 78 | TEC | I | Input pin for the tracking comparator |
| 79 | REFOUT | O | Output point for midpoint potential for the A/D converter for the LSI portion |
| 80 | A.VDD | | Supplies current of accurate voltage to the analog circuit |

*UPD63702GF



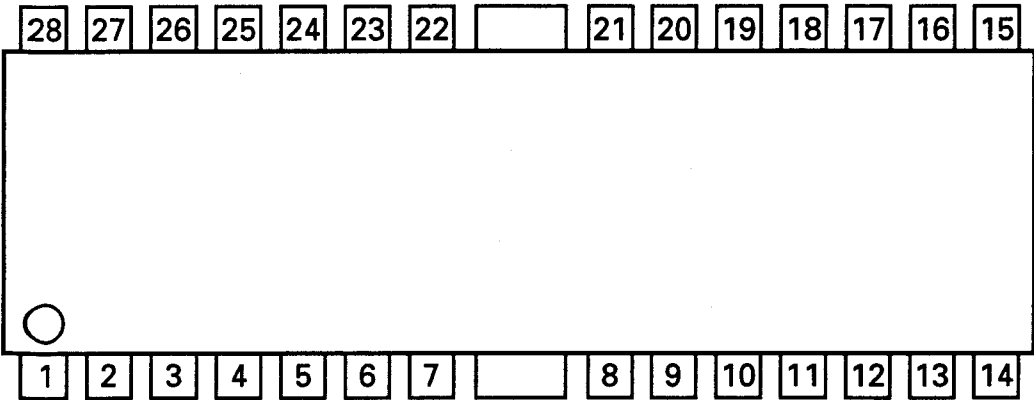
IC's marked by* are MOS type.

Be careful in handling them because they are very liable to be damaged by electrostatic induction.

● Pin Functions (XLA6997FP)

| Pin No. | Pin Name | I/O | Function and Operation |
|---------|----------|-----|---|
| 1 | OUT1-A | O | CH1 driver output |
| 2 | OUT1-B | O | CH1 driver output |
| 3 | IN1 | I | CH1 input |
| 4 | IN1' | I | CH1 gain adjustment input |
| 5 | REG-B | | PowTr base connection pin for regulator |
| 6 | REG OUT | O | Regulator output PowTr collector connection |
| 7 | REG GND | | Regulator GND/Common circuit GND |
| 8 | BIAS | I | BIAS input |
| 9 | MUTE | | Mute control pin |
| 10 | REG SW | | Regulator switch pin |
| 11 | TEMP MON | | Humidity monitor pin |
| 12 | IN2 | I | CH2 input |
| 13 | OUT2-B | O | CH2 driver output |
| 14 | OUT2-A | O | CH2 driver output |
| 15 | GND | | GND |
| 16 | OUT3-A | O | CH3 driver output |
| 17 | OUT3-B | O | CH3 driver output |
| 18 | IN3" | | CH3 gain adjustment pin |
| 19 | IN3' | | CH3 gain adjustment pin |
| 20 | IN3 | I | CH3 input |
| 21,22 | VCC | | VCC |
| 23 | IN4 | I | CH4 input |
| 24 | IN4' | | CH4 gain adjustment pin |
| 25 | IN4" | | CH4 gain adjustment pin |
| 26 | OUT4-B | O | CH4 driver output |
| 27 | OUT4-A | O | CH4 driver output |
| 28 | GND | | GND |

XLA6997FP



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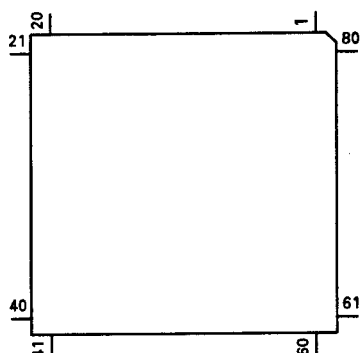
● Pin Functions (PDR027A)

| Pin No. | Pin Name | I/O | Format | Function and Operation |
|---------|----------|-----|--------|---|
| 1 | MODEL1 | I | | Model select input |
| 2,3 | NC | | | Not used |
| 4 | AVSS | | | GND |
| 5 | ST | I | | FM stereo input |
| 6 | SD | I | | SD input |
| 7 | AVREF1 | | | A/D converter reference voltage |
| 8 | KYDT | I | | Key data input |
| 9 | DPDT | O | C | Display data output |
| 10 | NC | | | Not used |
| 11 | PDI | I | | Data input from PLL IC |
| 12 | PDO | O | C | Data output for PLL IC |
| 13 | PCK | O | C | Serial clock output for PLL IC |
| 14 | PCE | O | C | Chip enable output for PLL IC |
| 15 | CURRQ | O | C | Tuner voltage FIX output |
| 16 | XSI | I | | Data input from CD mechanism module LSI |
| 17 | XSO | O | C | Data output for CD mechanism module LSI |
| 18 | XSCK | O | C | Clock output for CD mechanism module LSI |
| 19 | NC | | | Not used |
| 20 | AM | O | C | AM power control output |
| 21 | FM | O | C | FM power control output |
| 22 | VDCONT | O | C | VD control output |
| 23 | CONT | O | C | Servo driver power supply control |
| 24 | XAO | O | C | Command/Data output for CD mechanism module LSI |
| 25 | XRST | O | C | Reset output for CD mechanism module LSI |
| 26 | XSTB | O | C | Strobe output for CD mechanism module LSI |
| 27 | CLAMP | I | | Disc clamp sense input |
| 28 | MIRR | I | | Mirror detector input |
| 29 | FOK | I | | Focus OK signal input |
| 30 | LOCK | I | | Spindle lock detector input |
| 31 | CDLOAD | O | C | Load motor loading control output |
| 32 | NC | | | Not used |
| 33 | VSS | | | GND |
| 34 | CDEJET | O | C | Load motor eject control output |
| 35 | CD5VON | O | C | CD +5V power supply control output |
| 36 | DLED | O | N | Alarm LED output |
| 37,38 | MODEL2,3 | I | | Model select input |
| 39,40 | NC | | | Not used |
| 41 | SWVDD | O | C | Grille power supply control output |
| 42 | SYSPW | O | C | System power supply control output |
| 43 | ILMPW | O | C | Illumination power supply control output |
| 44 | MUTE | O | C | System mute output |
| 45 | PEE | O | C | Beep tone output |
| 46 | DOORH | O | C | Door system select output |
| 47 | DRSENS | I | | Door open/close sense input |
| 48 | NC | | | Not used |
| 49 | VST | O | C | Strobe pulse output for electronic volume |
| 50 | VCK | O | C | Clock output for electronic volume |
| 51 | VDT | O | C | Data output for electronic volume |
| 52-54 | NC | | | Not used |
| 55 | DRELAY | O | C | External relay output |
| 56 | TUNPW | O | C | Tuner power supply control output |
| 57 | LPFSW | O | C | Output for FIE |
| 58,59 | NC | | | Not used |
| 60 | RESET | I | | Reset input |
| 61 | LDET | I | | PLL lock sense input |
| 62 | NC | | | Not used |
| 63 | ASENS | I | | ACC power sense input |
| 64 | BSENS | I | | Back up power sense input |

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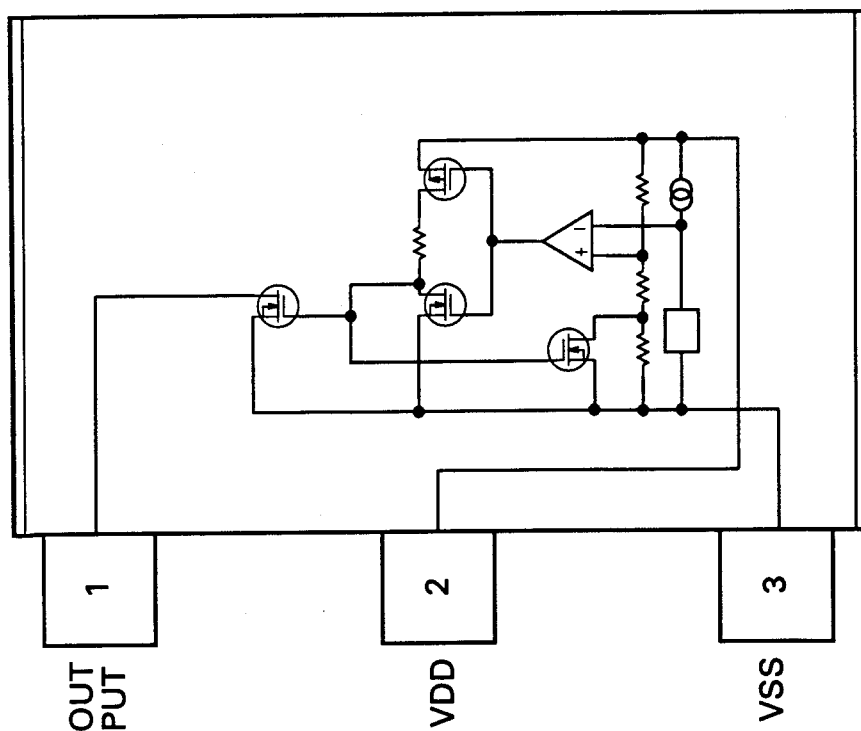
| Pin No. | Pin Name | I/O | Format | Function and Operation |
|---------|----------|-----|--------|---|
| 65 | DSENS | I | | Grille detach sense |
| 66 | CLKIN | I | | Clock input |
| 67 | NC | | | Not used |
| 68 | VDD | | | Power supply |
| 69 | X2 | | | Crystal oscillator connection pin |
| 70 | X1 | | | Crystal oscillator connection pin |
| 71 | IC | | | Connect to GND |
| 72 | XT2 | | | Not used |
| 73 | TESTIN | I | | Test program mode input |
| 74 | AVDD | | | Positive power supply terminal for analog circuit |
| 75 | AVREF0 | | | A/D converter reference voltage |
| 76 | SL | I | | SD level input from tuner |
| 77 | TEMP | I | | Temperature detect input |
| 78 | VDSENS | I | | VD power supply short detection input |
| 79 | DSCSNC | I | | Disc sense input |
| 80 | EJTSNC | I | | Disc eject position sense input |

*PDR027A



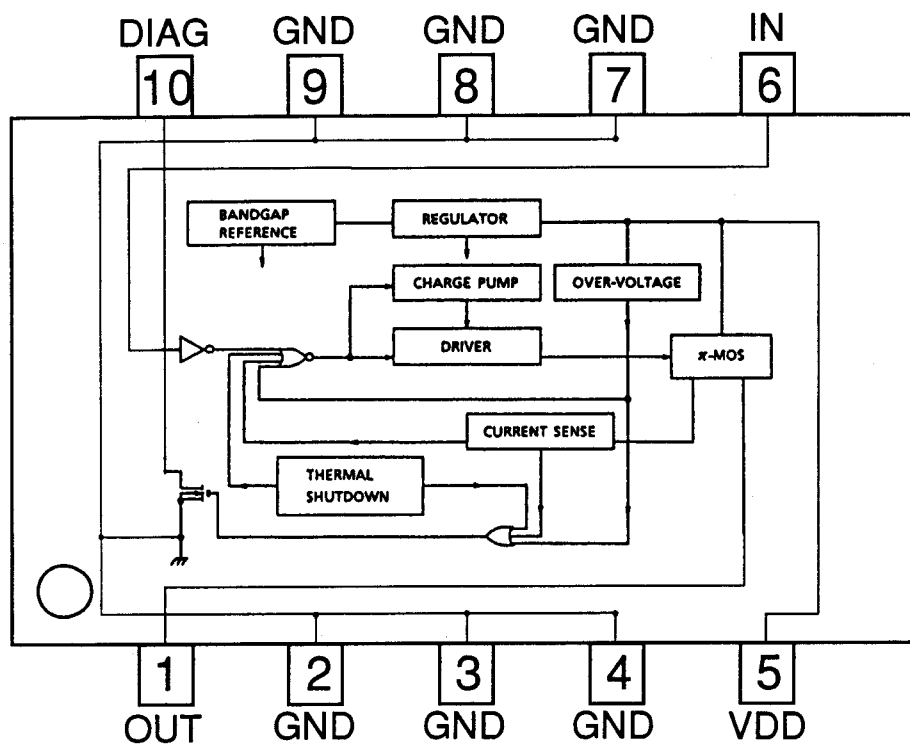
| Format | Meaning |
|--------|----------------------|
| C | C MOS |
| N | N channel open drain |

*S-80734AN



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TPD1018F



8. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/OSOOOJ,RS1/OOSOOOJ

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

| ====Circuit Symbol & No. Part Name===== | Part No. | ====Circuit Symbol & No. Part Name===== | Part No. |
|---|-------------|---|--------------|
| Unit Number : CWM4485(DEH-59/UC) | | R 441 442 506 537 539 624 625 | RS1/10S0R0J |
| Unit Name : Tuner Amp Unit | | R 443 444 | RD1/4PU222J |
| | | R 445 446 | RS1/10S162J |
| MISCELLANEOUS | | R 459 460 633 | RS1/10S272J |
| IC 451 | SN761025DL | R 461 462 | RS1/10S151J |
| IC 501 | PM2004A | R 463 464 | RS1/10S101J |
| IC 551 | PAL003A | R 474 477 523 571 580 954 955 972 975 | RS1/10S103J |
| IC 601 | PDR027A | R 475 476 | FD1/4PU471J |
| IC 602 | S-80734AN | R 501 | RS1/8S102J |
| | | R 502 511 657 668 | RS1/10S222J |
| IC 961 | TPD1018F | R 503 608 609 610 651 652 | FD1/4PU472J |
| Q 421 431 432 | FMG3A | R 504 | FD1/4PU223J |
| Q 423 441 | DTA124ES | R 507 | RS1/8S473J |
| Q 501 631 953 971 972 | 2SC2458 | R 508 | RS1/10S102J |
| Q 502 | DTC114ES | R 509 526 | RS1/10S472J |
| | | R 513 528 664 951 978 983 993 | RS1/10S472J |
| Q 551 | DTC144ES | R 514 607 627 659 956 971 973 974 976 | RS1/10S473J |
| Q 632 992 | FMC2A | R 515 516 518 | FD1/4PU681J |
| Q 641 | DTC114ES | R 517 | FD1/4PU681J |
| Q 651 | 2SA1048 | R 519 520 | RS1/10S392J |
| Q 653 | 2SB1236 | R 521 | RS1/10S152J |
| | | R 522 | RS1/10S682J |
| Q 654 952 | DTC124ES | R 524 | RS1/10S561J |
| Q 951 | 2SB1243 | R 525 | FD1/4PU272J |
| Q 973 | 2SD1859 | R 527 | RS1/10S682J |
| Q 981 991 | 2SD2396 | R 529 | RS1/10S681J |
| Q 982 983 | 2SA1674 | R 530 | RS1/10S222J |
| | | R 531 | RS1/10S103J |
| Q 984 | FMG1A | R 532 | RS1/10S224J |
| D 503 504 601 954 955 | 1SS133 | R 533 | RS1/8S0R0J |
| D 611 612 631 632 951 952 961 962 | 1SR139-200 | R 534 605 665 958 985 986 | FD1/4PU102J |
| D 633 | BR4361F | R 536 | RS1/8S102J |
| D 657 | HZS6LB2 | R 570 | RS1/8S103J |
| | | R 579 | RS1/10S331J |
| D 658 659 660 | MA153 | R 581 582 584 642 | FD1/4PU102J |
| D 953 | HZS9LA2 | R 583 | RS1/10S562J |
| D 971 | HZS7LC3 | R 601 | RI1/10SE223D |
| D 972 | HZS7LC2 | R 602 | FD1/4PU104J |
| D 973 | 1SR139-200 | R 603 | RS1/10S333J |
| | | R 604 | RS1/10S393J |
| D 974 | HZS6LB1 | R 606 | RS1/10S124J |
| D 981 | HZS9LB3 | R 621 622 638 639 | FD1/4PU473J |
| D 992 | HZS9LB1 | R 630 | FD1/4PU473J |
| L 501 | LAU220K | R 631 | FD1/4PU103J |
| L 502 601 | LAU2R2K | R 632 | RS1/8S223J |
| | | R 634 952 953 | FD1/4PU331J |
| L 503 631 | LAU2R2K | R 635 | FD1/4PU103J |
| L 602 | LAU101K | R 641 | RS1/10S202J |
| L 651 | LAU101K | R 653 654 655 681 683 684 | FD1/4PU222J |
| TH 601 | CCX1031 | R 656 | FD1/4PU472J |
| X 501 | CSS1379 | R 658 | RS1/8S222J |
| | | R 661 981 | RS1/10S1R0J |
| X 601 | CSS1047 | R 682 | FD1/4PU222J |
| | CWE1417 | R 688 | FD1/4PU681J |
| BZ 601 | CPV1011 | R 692 | RS1/8S102J |
| | | | |
| RESISTORS | | | |
| R 421 422 | RS1/10S104J | | |
| R 431 | RS1/8S471J | | |
| R 432 | RS1/10S471J | | |
| R 433 434 478 691 693 | RS1/10S102J | | |
| R 435 436 437 438 473 | RS1/10S223J | | |

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| ====Circuit Symbol & No. Part Name===== | | | | | | | | | | Part No. | ====Circuit Symbol & No. Part Name===== | | | | | | | | | | Part No. |
|---|--|--|--|--|--|--|--|--|--|--------------|---|--|--|--|--|---------------------------|----------------------------|-------------|--|--|----------|
| R 977 | | | | | | | | | | RS1/10S101J | X 901 | | | | | Ceramic Resonator 4.97MHz | CSS1312 | | | | |
| R 982 | | | | | | | | | | RD1/4PU471J | IL 901 902 903 904 | | | | | Lamp 14V 40mA | CEL1341 | | | | |
| R 984 | | | | | | | | | | RS1/8S472J | IL 905 | | | | | Lamp 14V 40mA | CEL1341 | | | | |
| R 987 | | | | | | | | | | RD1/10S221J | | | | | | LCD | CAW1329 | | | | |
| R 991 992 | | | | | | | | | | RD1/4PU221J | | | | | | | | | | | |
| R 994 | | | | | | | | | | RS1/10S122J | | | | | | | | | | | |
| CAPACITORS | | | | | | | | | | | RESISTORS | | | | | | | | | | |
| C 421 422 | | | | | | | | | | CEA3R3M50LL | R 901 902 903 | | | | | | RS1/8S222J | | | | |
| C 431 432 433 434 457 458 463 464 473 570 | | | | | | | | | | CEA100M16LL | R 906 | | | | | | RS1/10S470J | | | | |
| C 435 436 437 438 | | | | | | | | | | CCSQCH220J50 | R 908 909 | | | | | | RS1/10S0R0J | | | | |
| C 443 444 | | | | | | | | | | CKSQYB473K25 | R 911 912 913 914 | | | | | | RS1/10S471J | | | | |
| C 445 446 447 | | | | | | | | | | CKSQYB102K50 | | | | | | | | | | | |
| C 451 452 469 470 474 490 607 | | | | | | | | | | CEA2R2M50LL | | | | | | | | | | | |
| C 453 454 604 | | | | | | | | | | CEA4R7M35LL | | | | | | | | | | | |
| C 455 | | | | | | | | | | CKSYF104Z25 | | | | | | | | | | | |
| C 456 | | | | | | | | | | CKSQYF104Z25 | | | | | | | | | | | |
| C 459 460 | | | | | | | | | | CKSQYB822K50 | | | | | | | | | | | |
| C 461 462 572 574 | | | | | | | | | | CEA010M50LL | | | | | | | | | | | |
| C 465 466 | | | | | | | | | | CKSQYB152K50 | | | | | | | PA4023A | | | | |
| C 467 468 | | | | | | | | | | CCSQCH101J50 | IC 2 | | | | | | PA4024A | | | | |
| C 471 472 | | | | | | | | | | CKSQYB333K25 | Q 1 31 202 | | | | | | 2SC2412KLN | | | | |
| C 477 482 | | | | | | | | | | CKSQYB104K50 | Q 2 203 | | | | | | DTC124EU | | | | |
| C 478 501 508 517 519 527 529 590 982 | | | | | | | | | | CKSQYB103K50 | Q 3 | | | | | | 3SK263 | | | | |
| C 481 | | | | | | | | | | CEA470M10LL | Q 201 | | | | | | 2SK932 | | | | |
| C 483 484 | | | | | | | | | | CKSQYB183K25 | D 1 2 | | | | | | RD39JS | | | | |
| C 485 486 507 513 992 | | | | | | | | | | CKSQYB102K50 | D 4 | | | | | | 1SV251 | | | | |
| C 504 651 972 974 991 | | | | | | | | | | CKSQYB473K50 | D 5 7 8 | | | | | | KV1410 | | | | |
| C 505 | | | | | | | | | | CCSCH101J50 | D 6 201 202 | | | | | | MA157 | | | | |
| C 506 | | | | | | | | | | CKSYB103K50 | D 231 | | | | | | SVC253 | | | | |
| C 502 503 509 535 | | | | | | | | | | CKSQYB223K50 | L 2 4 | | | | | | CTC1108 | | | | |
| C 510 512 | | | | | | | | | | CEA220M10LL | L 3 | | | | | | LCTB2R2K2125 | | | | |
| C 515 | | | | | | | | | | CKSQYB223K50 | L 5 | | | | | | CTC1107 | | | | |
| C 516 | | | | | | | | | | CCH1165 | L 51 | | | | | | LAU150K | | | | |
| C 518 | | | | | | | | | | CCH1165 | | | | | | | | | | | |
| C 520 | | | | | | | | | | CKLSR473K16 | L 201 | | | | | | LAU4R7K | | | | |
| C 522 591 | | | | | | | | | | CEA220M10LL | L 202 | | | | | | LAU330K | | | | |
| C 523 | | | | | | | | | | CKSQYB104K50 | L 203 | | | | | | CTF1287 | | | | |
| C 524 525 | | | | | | | | | | CCSQCH150J50 | L 208 | | | | | | LAU121K | | | | |
| C 526 | | | | | | | | | | CKSYB332K50 | L 231 | | | | | | LAU3R3J | | | | |
| C 530 536 | | | | | | | | | | CKSQYB103K50 | T 31 | | | | | | CTE1116 | | | | |
| C 531 | | | | | | | | | | CCSQCH101J50 | T 51 | | | | | | CTC1136 | | | | |
| C 532 | | | | | | | | | | CKSQYB103K50 | CF 51 52 53 | | | | | | CTF1290 | | | | |
| C 539 | | | | | | | | | | CKSQYB473K50 | CF 232 | | | | | | CTF1348 | | | | |
| C 551 553 554 | | | | | | | | | | CEAR22M50LL | X 151 | | | | | | CSS1365 | | | | |
| C 552 | | | | | | | | | | CEAR22M50LL | X 231 | | | | | | Crystal Resonator 10.26MHz | | | | |
| C 556 | | | | | | | | | | CCH1150 | VR 154 | | | | | | Semi-fixed 68kΩ(B) | | | | |
| C 571 | | | | | | | | | | CEA330M10LL | | | | | | | CSS1111 | | | | |
| C 573 | | | | | | | | | | CKSYB104K50 | | | | | | | CCP1211 | | | | |
| C 605 | | | | | | | | | | CCSQCH101J50 | R 1 2 | | | | | | RS1/16S225J | | | | |
| C 606 | | | | | | | | | | CKSQYB473K50 | R 4 | | | | | | RS1/16S154J | | | | |
| C 652 | | | | | | | | | | CEA4R7M35LL | R 5 | | | | | | RS1/16S391J | | | | |
| C 961 | | | | | | | | | | CKSYB473K50 | R 6 10 202 | | | | | | RS1/16S223J | | | | |
| C 971 | | | | | | | | | | CCH-114 | R 7 247 | | | | | | RS1/16S123J | | | | |
| C 973 | | | | | | | | | | CEA101M10LL | R 8 17 | | | | | | RS1/16S332J | | | | |
| C 981 | | | | | | | | | | CEAS331M10 | R 9 | | | | | | RS1/16S473J | | | | |
| C 983 | | | | | | | | | | CEA101M16LL | R 11 | | | | | | RS1/16S124J | | | | |
| C 993 | | | | | | | | | | CEA101M10LS | R 13 | | | | | | RS1/16S563J | | | | |
| | | | | | | | | | | | R 15 | | | | | | RS1/16S271J | | | | |
| Unit Number : CWM4501 | | | | | | | | | | | R 16 | | | | | | | RS1/16S104J | | | |
| Unit Name : Key Board Unit | | | | | | | | | | | R 18 | | | | | | | RS1/16S332J | | | |
| MISCELLANEOUS | | | | | | | | | | | R 31 | | | | | | | RS1/16S470J | | | |
| IC 901 | | | | | | | | | | PD6122A | R 32 215 | | | | | | RS1/16S822J | | | | |
| IC 902 | | | | | | | | | | RPM-678CBR | R 33 | | | | | | RS1/16S822J | | | | |
| D 901 902 | | | | | | | | | | DA204K | R 34 35 | | | | | | RS1/16S331J | | | | |
| D 903 | | | | | | | | | | MA3051L | R 51 | | | | | | RS1/16S271J | | | | |
| L 901 | | | | | | | | | | LCTB4R7K3216 | R 52 | | | | | | RS1/16S560J | | | | |
| | | | | | | | | | | | R 55 | | | | | | RS1/16S102J | | | | |
| | | | | | | | | | | | R 56 | | | | | | RS1/16S823J | | | | |

DEH-59,52,525,49,42,425,225,523,323,223

| ====Circuit Symbol & No. Part Name===== | Part No. | ====Circuit Symbol & No. Part Name===== | Part No. |
|---|---------------|---|---------------|
| R 61 | RS1/16S392J | C 103 | CKSRYPB682K25 |
| R 62 | RS1/16S273J | C 104 | CEA2R2M50LL |
| R 101 | RS1/16S272J | C 106 | CCSRCH151J50 |
| R 102 | RS1/16S682J | C 151 | CKSRYPB472K50 |
| R 103 | RS1/16S333J | C 153 157 | CEA3R3M50LL |
| R 104 | RS1/16S334J | C 154 | CKSOYB104K16 |
| R 105 | RS1/16S683J | C 158 | CKSYB474K16 |
| R 107 | RS1/16S222J | C 159 | CEA220M6R3LL |
| R 151 | RS1/16S222J | C 161 209 | CKSOYB104K16 |
| R 152 | RS1/16S393J | C 162 | CEA3R3M50LL |
| R 239 | RS1/16S104J | C 163 | CKSRYPB102K50 |
| R 155 | RS1/16S273J | C 170 202 | CCSRCH100D50 |
| R 156 | RS1/16S243J | C 201 250 | CCSRCH471J50 |
| R 157 | RS1/16S203J | C 203 235 | CKSRYPB332K50 |
| R 160 | RS1/16S222J | C 204 205 236 244 | CKSOYB473K16 |
| R 161 | RS1/16S563J | C 206 233 | CKSOYB104K16 |
| R 162 | RS1/16S105J | C 207 | CCSRCH560J50 |
| R 163 | RS1/16S223J | C 211 | CCSRCH101J50 |
| R 203 | RS1/16S225J | C 212 | CEA470M6R3LL |
| R 204 | RS1/16S103J | C 216 | CCSRCH101J50 |
| R 206 | RS1/16S220J | C 217 | CEA1R5M50LL |
| R 207 | RS1/16S101J | C 219 | CCSRCH471J50 |
| R 208 217 | RS1/16S102J | C 220 230 | CKSRYPB103K25 |
| R 209 | RS1/16S471J | C 231 | CCSRCH330J50 |
| R 214 | RS1/16S822J | C 232 | CCSRCH150J50 |
| R 231 | RS1/16S272J | C 237 | CCSRCH180J50 |
| R 232 | RS1/16S473J | C 239 | CKSRYPB472K50 |
| R 237 | RS1/16S103J | C 240 242 | CEA47M50LL |
| R 238 | RS1/16S104J | C 243 | CEA33M50LL |
| R 239 | RS1/16S104J | C 245 | CKSRYPB183K25 |
| R 240 | RS1/16S332J | C 246 | CKSOYB473K16 |
| R 241 | RS1/16S202J | Unit Number : CWX1889 | |
| R 243 | RS1/16S183J | Unit Name : Control Unit | |
| R 244 | RS1/16S472J | | |
| CAPACITORS | | MISCELLANEOUS | |
| C 1 | CCSQCH060D50 | IC 101 | UPC2572GS |
| C 2 | CCSRCH020C50 | IC 201 | UPD63702GF |
| C 4 | CCSRCH820J50 | IC 301 | LA6997FP |
| C 6 | CCSRCH820J50 | IC 302 | RA6285FP |
| C 8 18 25 31 52 59 62 105 107 213 | CKSRYPB103K25 | IC 601 | A2063F |
| C 9 34 56 152 160 241 | CKSOYB104K16 | IC 701 | PD05TZ51 |
| C 10 | CCSRCH0R5C50 | Q 101 | SD 1664 |
| C 11 | CEA010M50LL | Q 102 | MD2N |
| C 12 13 17 19 20 | CKSRYPB222K50 | Q 601 602 | SD 1781K |
| C 14 | CCSRCH220J50 | Q 603 | SB 709A |
| C 15 | CCSRCH060D50 | D 601 | IA 151WA |
| C 16 | CCSRCH080D50 | D 701 702 | SR 154-400 |
| C 21 | CEA100M16LL | D 801 802 | L200IRX |
| C 22 | CCSRTH090D50 | X 201 | SS 1363 |
| C 23 | CCSRTH120J50 | S 801 802 | SN 1028 |
| C 24 | CCSRCH471J50 | RESISTORS | |
| C 26 | CCSRCH101J50 | R 101 | IS1/8S100J |
| C 32 | CKSOYB472K50 | R 102 | IS1/8S120J |
| C 33 | CCSRCH050C50 | R 103 | IS1/16S102J |
| C 36 | CCSRRH201J50 | R 104 | IS1/16S822J |
| C 51 | CKSRYPB223K25 | R 105 | IS1/16S682J |
| C 54 | CCSRCH470J50 | R 106 | IS1/16S183J |
| C 55 | CKSOYB223K25 | R 107 | IS1/16S822J |
| C 57 | CKSRYPB472K50 | R 108 | IS1/16S333J |
| C 58 234 | CEA330M10LL | R 109 | IS1/16S683J |
| C 60 | CKSRYPB102K50 | R 110 | IS1/16S134J |
| C 61 | CKSRYPB102K50 | R 111 | IS1/16S273J |
| C 63 | CEA22M50LL | R 112 | IS1/16S222J |
| C 101 | CEA100M10NPLL | R 113 114 607 | IS1/16S103J |
| C 102 | CKSRYPB182K50 | R 115 | IS1/16S102J |
| | | R 116 117 | IS1/16S163J |

DEH-59,52,525,49,42,425,225,523,323,223

====Circuit Symbol & No. Part Name===== Part No.

| | |
|-----------|-------------|
| R 201 | RS1/16S104J |
| R 202 | RS1/16S473J |
| R 304 501 | RS1/16S0R0J |
| R 505 | RS1/16S102J |
| R 507 | RA4C102J |
| R 508 | RA4C681J |
| R 510 | RS1/10S0R0J |
| R 601 602 | RS1/16S102J |
| R 603 604 | RS1/16S223J |
| R 605 606 | RS1/16S162J |
| R 801 802 | RS1/8S751J |

CAPACITORS

| | |
|-----------------|--------------|
| C 101 601 703 | CEV101M6R3 |
| C 102 | CKSQYB104K16 |
| C 103 | CEV470M6R3 |
| C 104 | CKSYB334K16 |
| C 105 | CCSRCH330J50 |
| C 106 304 | CKSRYB103K25 |
| C 107 603 604 | CEV4R7M35 |
| C 108 | CKSQYB273K50 |
| C 109 | CCSRCH101J50 |
| C 110 202 | CKSQYB104K16 |
| C 111 | CKSRYB332K50 |
| C 112 | CKSQYB473K16 |
| C 113 | CKSRYB103K25 |
| C 114 | CKSRYB391K50 |
| C 115 | CCSRCH121J50 |
| C 116 | CKSRYB682K25 |
| C 117 | CKSRYB333K16 |
| C 118 201 | CKSYB334K16 |
| C 119 | CKSYB334K16 |
| C 120 121 702 | CKSYB334K16 |
| C 122 124 | CKSQYB104K16 |
| C 123 | CKSRYB472K50 |
| C 125 | CCSRCH060D50 |
| C 126 | CKSRYB153K25 |
| C 127 | CCSRCH102J25 |
| C 203 | CKSQYB104K16 |
| C 303 | CEV470M16 |
| C 305 306 | CKSRYB103K25 |
| C 502 | CKSRYB471K50 |
| C 602 | CKSQYB104K16 |
| C 605 606 | CKSRYB152K50 |
| C 607 | CEV220M6R3 |
| C 701 22μF/6.3V | CCH1233 |
| C 901 903 | CCSRCH471J50 |
| C 902 | CCSRCH271J50 |
| C 904 | CCSRCH101J50 |

Unit Number :

Unit Name : Detector P.C.Board

| | | |
|-------|------------------|------------|
| Q 1 2 | Photo Transistor | CPT-230S-X |
|-------|------------------|------------|

Miscellaneous Parts List

| | | |
|-----|--------------------------|---------|
| M 1 | PU Unit | CGY1070 |
| M 2 | Motor Unit(Spindle) | CXA9100 |
| M 3 | CRG Motor Unit(Carriage) | CXA8986 |
| | Load Motor Unit>Loading) | CXA8702 |

● The DEH-52/UC, DEH-525/UC, DEH-523/ES, DEH-49/UC, DEH-42/UC, DEH-425/UC, DEH-323/ES, DEH-225/UC, and DEH-223/ES Parts Lists enumerate the parts which differ from those enumerated in the DEH-59/UC Parts List only. The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly. The DEH-59/UC Parts List is given on page 23.

Tuner Amp Unit

| | DEH-59/UC | DEH-52/UC | DEH-525/UC | DEH-523/ES | DEH-49/UC | DEH-42/UC | DEH-425/UC | DEH-323/ES | DEH-225/UC | DEH-223/ES |
|----------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Circuit Symbol & No. | Part No. | Part No. | Part No. | Part No. | Part No. | Part No. | Part No. | Part No. | Part No. | Part No. |
| IC961 | TPD1018F | ***** | ***** | ***** | ***** | ***** | ***** | ***** | ***** | ***** |
| Q421 | FMG3A | ***** | FMG3A | FMG3A | FMG3A | ***** | FMG3A | ***** | ***** | ***** |
| Q423 | DTA124ES | ***** | DTA124ES | DTA124ES | DTA124ES | ***** | DTA124ES | ***** | ***** | ***** |
| Q432 | FMG3A | ***** | FMG3A | FMG3A | FMG3A | ***** | ***** | ***** | ***** | ***** |
| Q631 | 2SC2458 | ***** | ***** | 2SC2458 | ***** | ***** | ***** | ***** | ***** | ***** |
| Q632 | FMC2A | ***** | ***** | FMC2A | ***** | ***** | ***** | ***** | ***** | ***** |
| Q641 | DTC114ES | ***** | ***** | ***** | DTC114ES | ***** | ***** | ***** | ***** | ***** |
| D611,612 | 1SR139-200 | ***** | ***** | ***** | ***** | ***** | ***** | ***** | ***** | ***** |
| D631,632 | 1SR139-200 | ***** | ***** | 1SR139-200 | ***** | ***** | ***** | ***** | ***** | ***** |
| D633 | BR4361F | ***** | ***** | BR4361F | ***** | ***** | ***** | ***** | ***** | ***** |
| D657 | HZS6LB2 | HZS6LB2 | HZS6LB2 | HZS6LB2 | HZS6LB2 | HZS6LB2 | HZS6LB2 | HZS6LB2 | ***** | ***** |
| D658,659,660 | MA153 | MA153 | MA153 | MA153 | MA153 | MA153 | MA153 | MA153 | ***** | ***** |
| BZ601 | CPV1011 | ***** | ***** | ***** | CPV1011 | ***** | ***** | ***** | ***** | ***** |
| L631 | LAU2R2K | ***** | ***** | LAU2R2K | ***** | ***** | ***** | ***** | ***** | ***** |
| R421,422 | RS1/10S104J | ***** | RS1/10S104J | RS1/10S104J | RS1/10S104J | ***** | RS1/10S104J | ***** | ***** | ***** |
| R433,434 | RS1/10S102J | ***** | RS1/10S102J | RS1/10S102J | RS1/10S102J | ***** | ***** | ***** | ***** | ***** |
| R437,438 | RS1/10S223J | ***** | RS1/10S223J | RS1/10S223J | RS1/10S223J | ***** | ***** | ***** | ***** | ***** |
| R477 | RS1/10S103J | ***** | ***** | RS1/10S103J | ***** | ***** | ***** | ***** | ***** | ***** |
| R478 | RS1/10S102J | ***** | ***** | RS1/10S102J | ***** | ***** | ***** | ***** | ***** | ***** |
| R506 | RS1/10S0R0J | RS1/10S0R0J | RS1/10S0R0J | ***** | RS1/10S0R0J | RS1/10S0R0J | RS1/10S0R0J | ***** | RS1/10S0R0J | ***** |
| R602 | RD1/4PU104J | RD1/4PU333J | RD1/4PU473J | RD1/4PU333J | RD1/4PU104J | RD1/4PU333J | RD1/4PU473J | RD1/4PU333J | RD1/4PU473J | RD1/4PU333J |
| R603 | RS1/10S333J | RS1/10S473J | RS1/10S333J | RS1/10S104J | RS1/10S333J | RS1/10S473J | RS1/10S333J | RS1/10S104J | RS1/10S333J | RS1/10S104J |
| R625 | RS1/10S0R0J | RS1/10S0R0J | RS1/10S0R0J | RS1/10S0R0J | ***** | ***** | ***** | ***** | ***** | ***** |
| R626 | ***** | ***** | ***** | RS1/10S0R0J | RS1/10S0R0J | RS1/10S0R0J | RS1/10S0R0J | RS1/10S0R0J | ***** | ***** |
| R627 | RS1/10S473J | RS1/10S473J | RS1/10S473J | RS1/10S473J | ***** | ***** | ***** | ***** | RS1/10S473J | RS1/10S473J |
| R628 | ***** | ***** | ***** | ***** | RS1/10S473J | RS1/10S473J | RS1/10S473J | RS1/10S473J | RS1/10S473J | RS1/10S473J |
| R630 | RD1/4PU473J | ***** | ***** | RD1/4PU473J | ***** | ***** | ***** | ***** | ***** | ***** |
| R631 | RD1/4PU103J | ***** | ***** | RD1/4PU103J | ***** | ***** | ***** | ***** | ***** | ***** |
| R632 | RS1/8S223J | ***** | ***** | RS1/8S223J | ***** | ***** | ***** | ***** | ***** | ***** |
| R633 | RS1/10S272J | ***** | ***** | RS1/10S272J | ***** | ***** | ***** | ***** | ***** | ***** |
| R634 | RD1/4PU331J | ***** | ***** | RD1/4PU331J | ***** | ***** | ***** | ***** | ***** | ***** |
| R635 | RD1/4PU103J | ***** | ***** | ***** | ***** | ***** | ***** | ***** | ***** | ***** |
| R641 | RS1/10S202J | ***** | ***** | ***** | RS1/10S202J | ***** | ***** | ***** | ***** | ***** |
| R642 | RD1/4PU102J | ***** | ***** | ***** | RD1/4PU102J | ***** | ***** | ***** | ***** | ***** |
| R958 | RD1/4PU102J | ***** | ***** | RD1/4PU102J | ***** | ***** | ***** | ***** | ***** | ***** |
| C421,422 | CEA3R3M50LL | ***** | CEA3R3M50LL | CEA3R3M50LL | CEA3R3M50LL | ***** | ***** | ***** | ***** | ***** |
| C433,434 | CEA100M16LL | ***** | CEA100M16LL | CEA100M16LL | CEA100M16LL | ***** | ***** | ***** | ***** | ***** |
| C437,438 | CCSQCH220J50 | ***** | CCSQCH220J50 | CCSQCH220J50 | CCSQCH220J50 | ***** | ***** | ***** | ***** | ***** |
| C490 | CEA2R2M50LL | ***** | ***** | CEA2R2M50LL | ***** | ***** | ***** | ***** | ***** | ***** |
| C511 | ***** | ***** | ***** | CKSQYB103K50 | ***** | ***** | CKSQYB103K50 | ***** | CKSQYB103K50 | ***** |
| C651 | CKSQYB473K50 | CKSQYB473K50 | CKSQYB473K50 | CKSQYB473K50 | CKSQYB473K50 | CKSQYB473K50 | CKSQYB473K50 | CKSQYB473K50 | ***** | ***** |
| C961 | CKSYB473K50 | ***** | ***** | ***** | ***** | ***** | ***** | ***** | ***** | ***** |

Key Board Unit

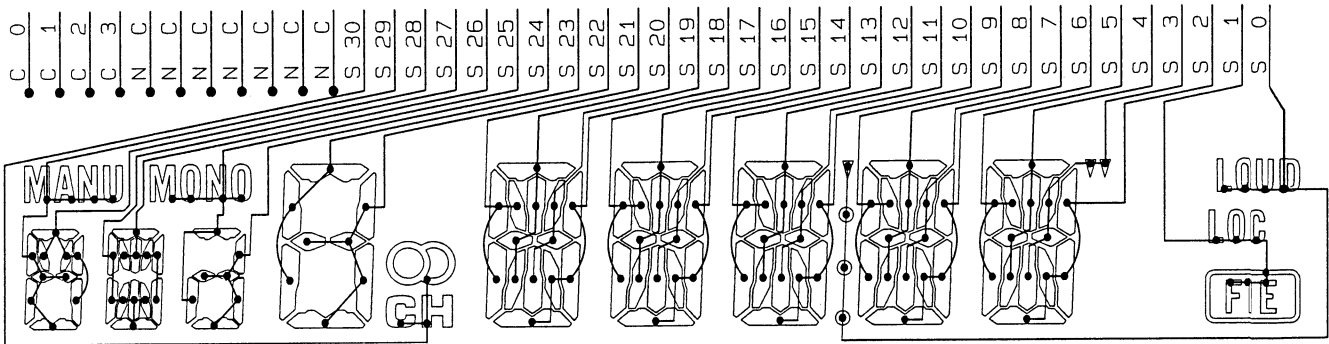
| | DEH-523/ES DEH-525/UC DEH-52/UC DEH-59/UC | DEH-323/ES DEH-425/UC DEH-42/UC DEH-49/UC | DEH-223/ES DEH-225/UC |
|----------------------|--|--|--------------------------|
| Circuit Symbol & No. | Part No. | Part No. | Part No. |
| IC902 | RPM-678CBR | ***** | ***** |
| D901,902 | DA204K | DA204K | ***** |
| D903 | MA3051L | MA3056L | MA3056L |
| LCD | CAW1329 | CAW1330 | CAW1330 |
| R905 | ***** | RS1/10S0R0J | RS1/10S0R0J |
| R906 | RS1/10S470J | ***** | ***** |
| C905 | CEA470M6R3LS | ***** | ***** |

9. LCD

● CAW1329 (DEH-59/UC, 52/UC, 525/UC, 523/ES)

● CAW1330 (DEH-49/UC, 42/UC, 425/UC, 323/ES, 225/UC, 223/ES)

SEGMENT



COMMON

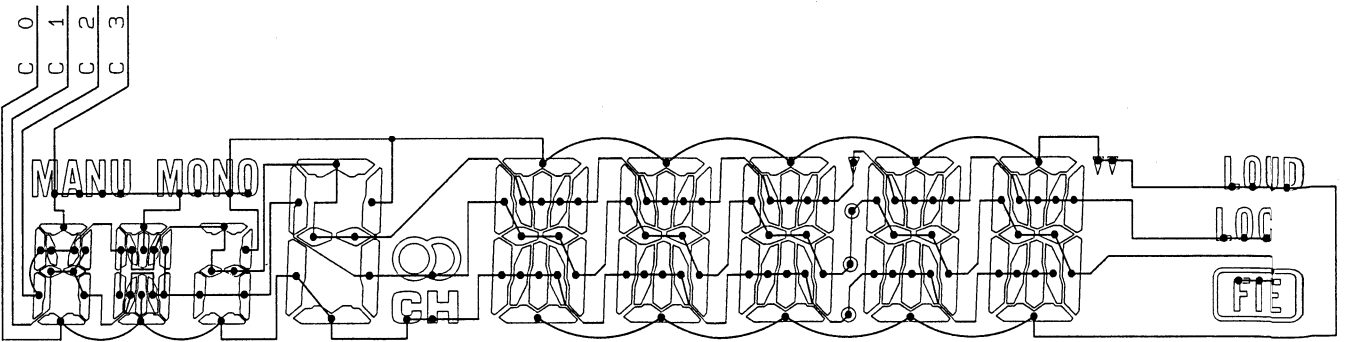


Fig. 5

10. BLOCK DIAGRAM

TUNER AMP UNIT

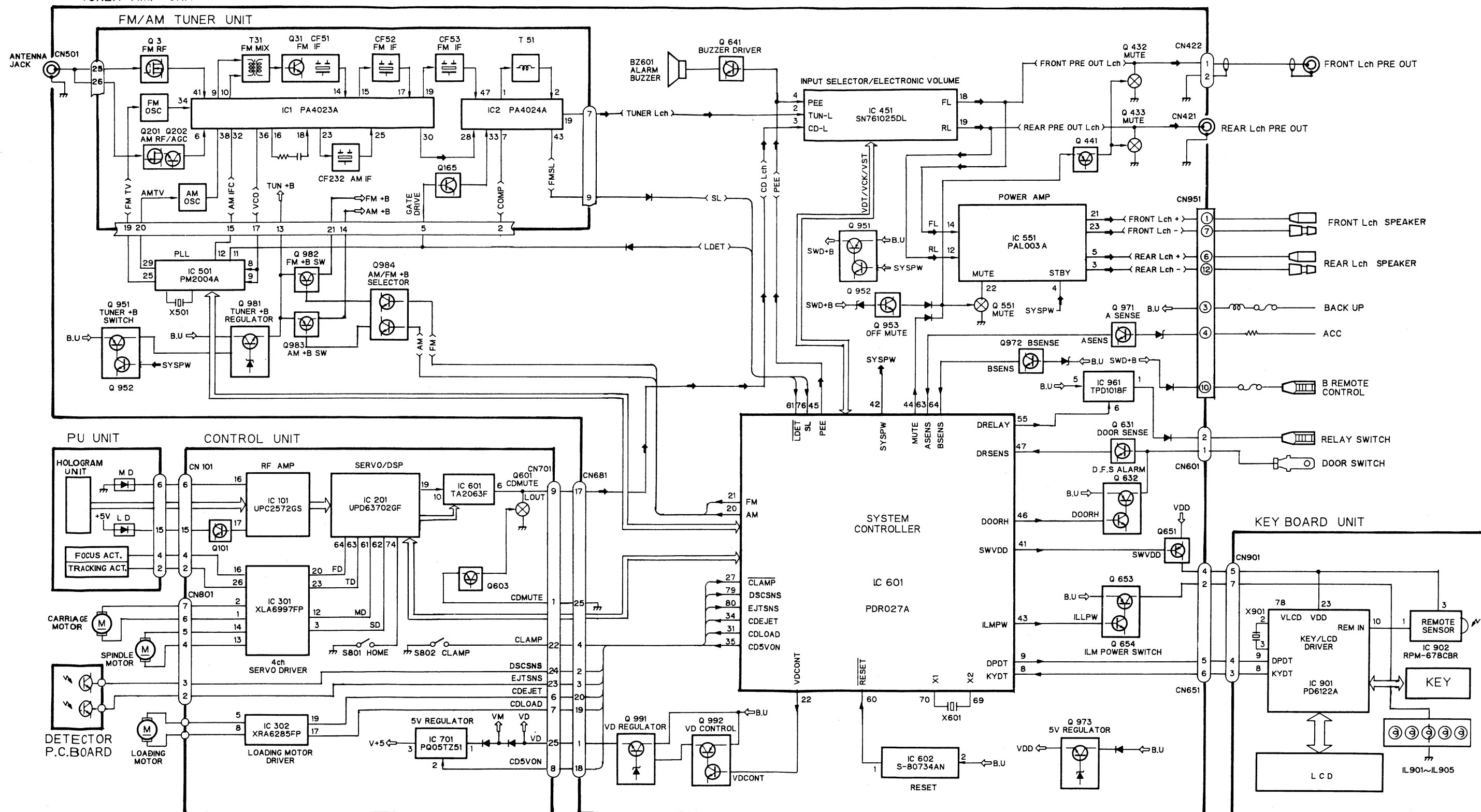
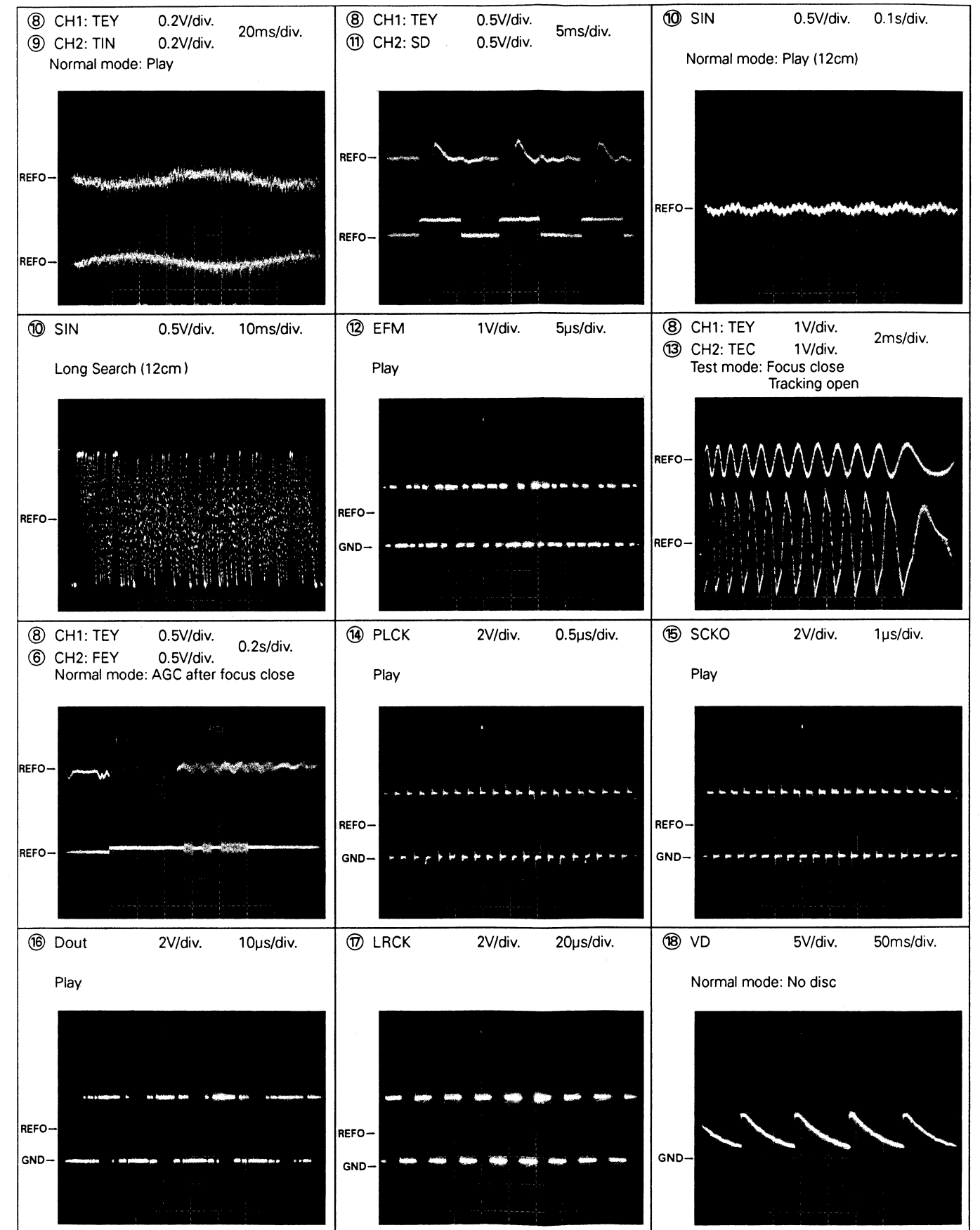
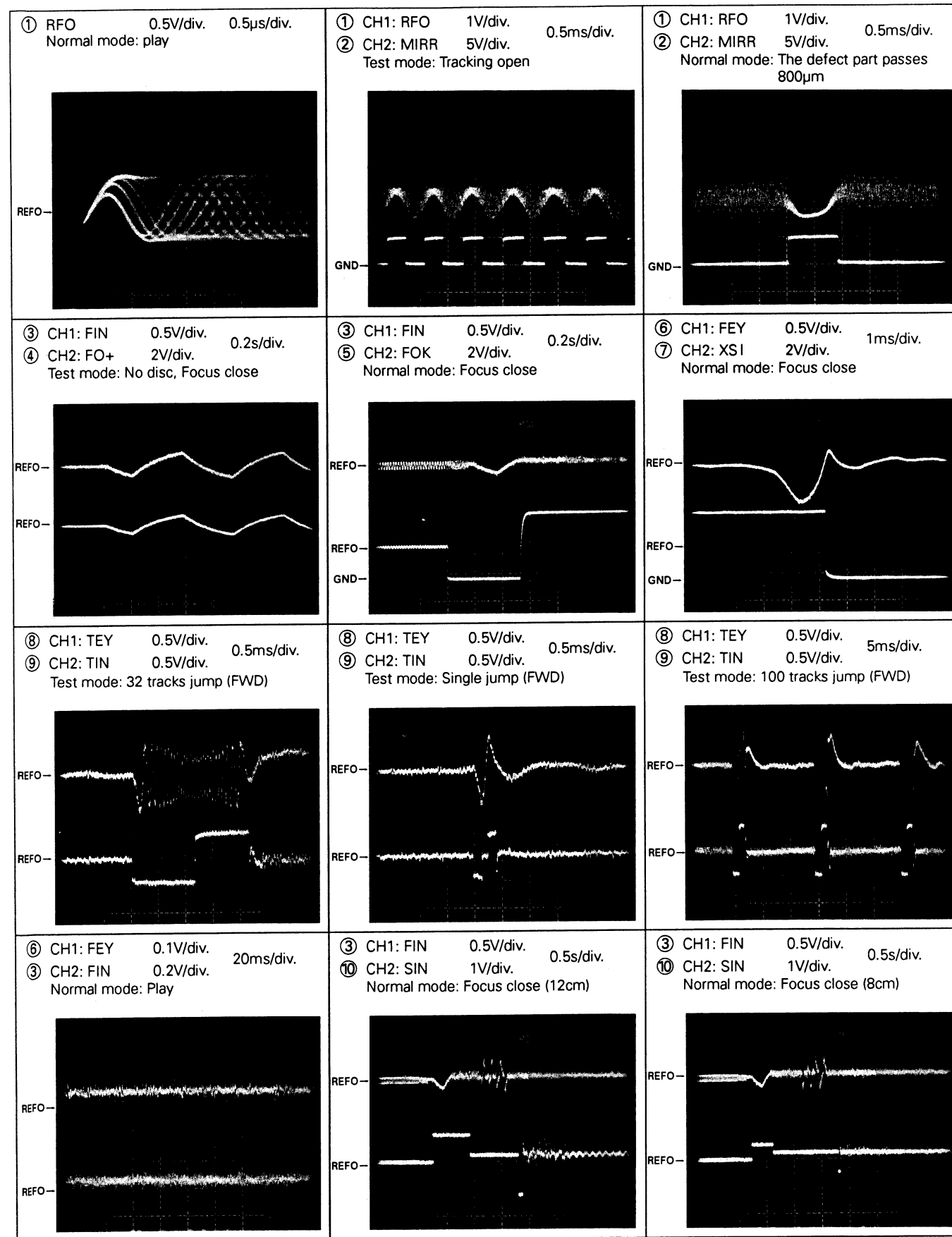


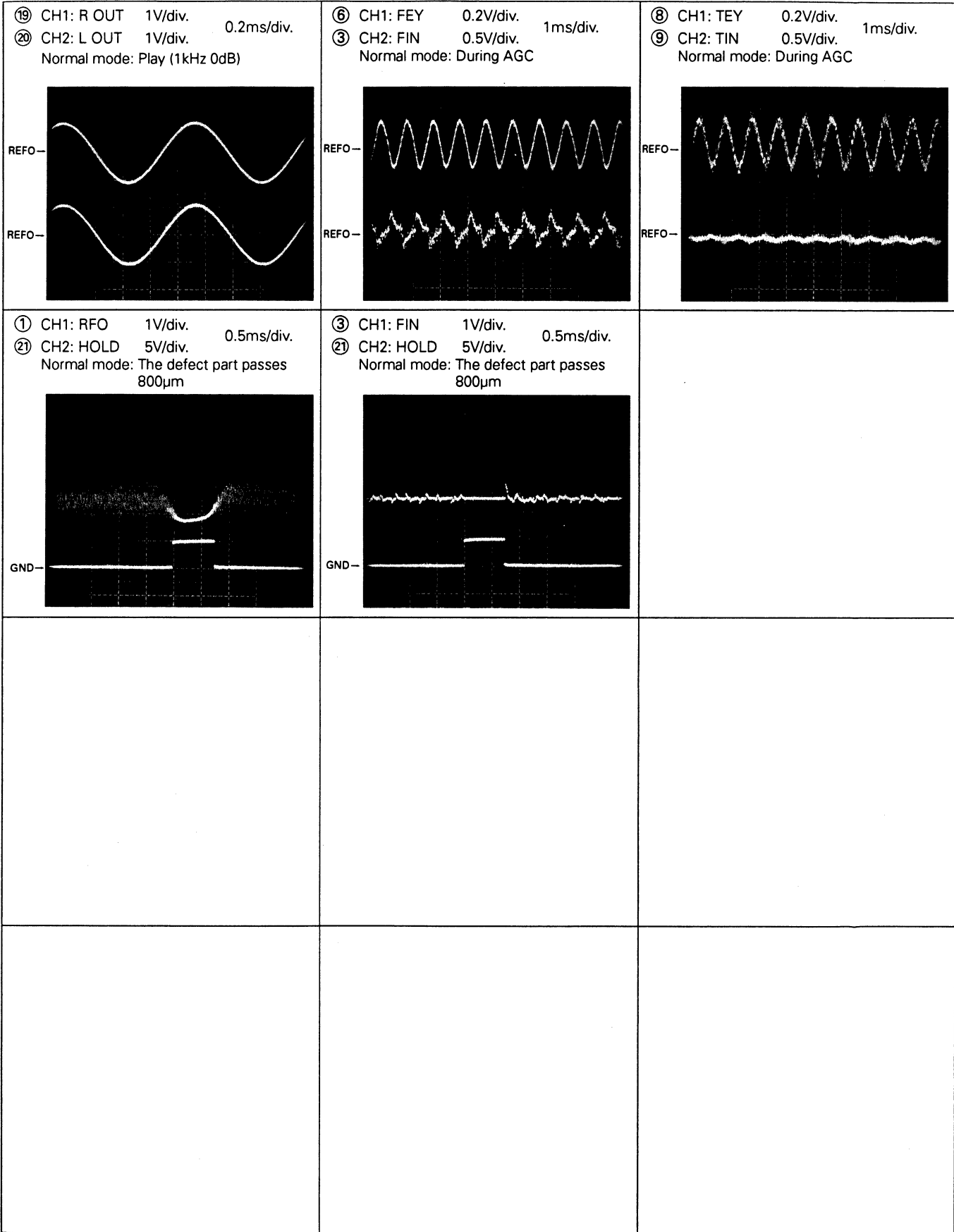
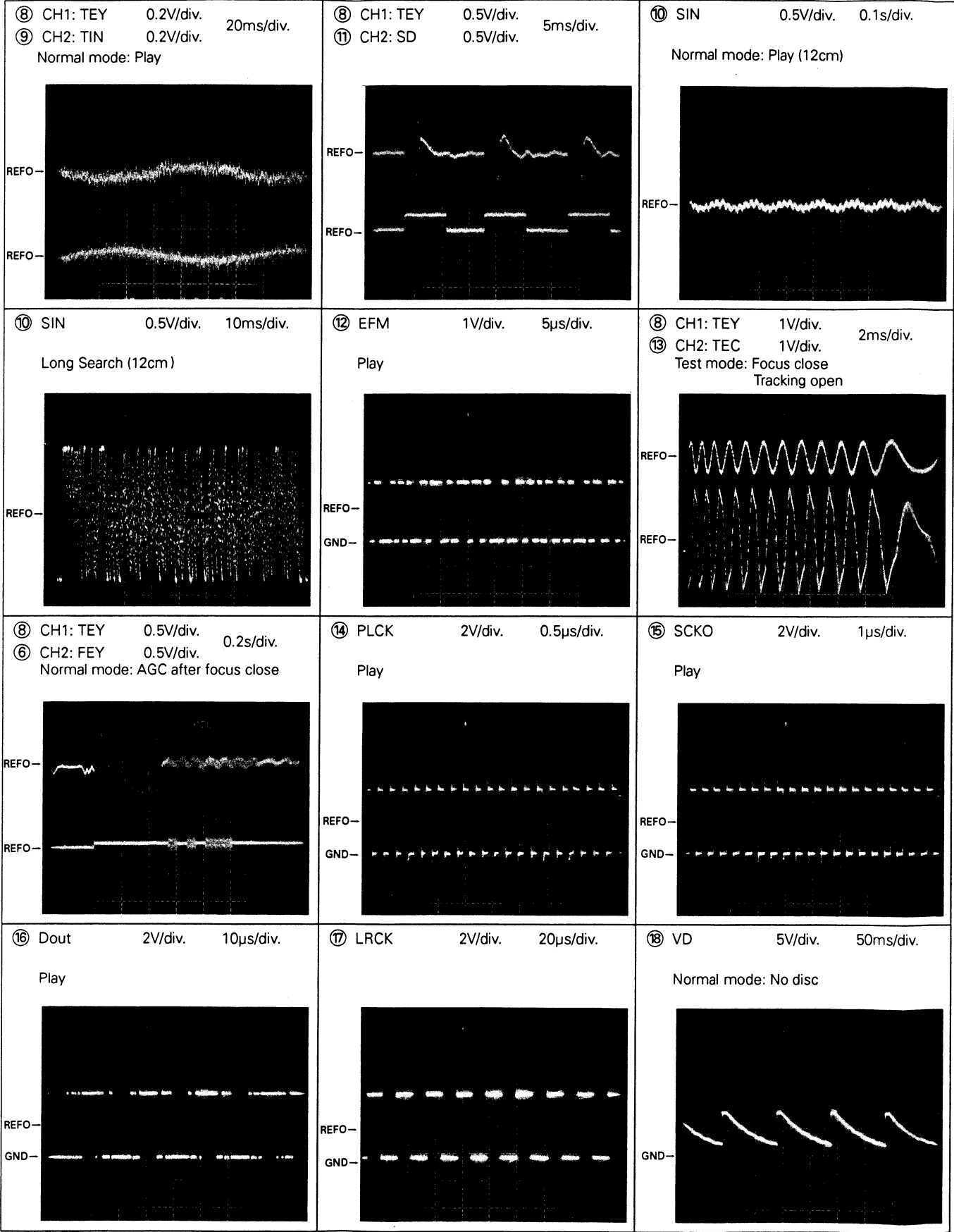
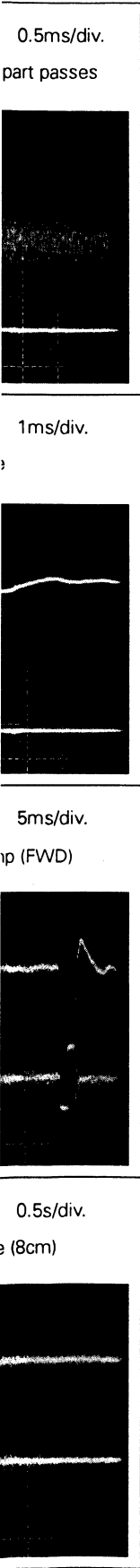
Fig. 6

● Waveforms

Note: 1. The encircled numbers denote measuring points in the circuit diagram.
2. Reference voltage
REFO: 2.5V



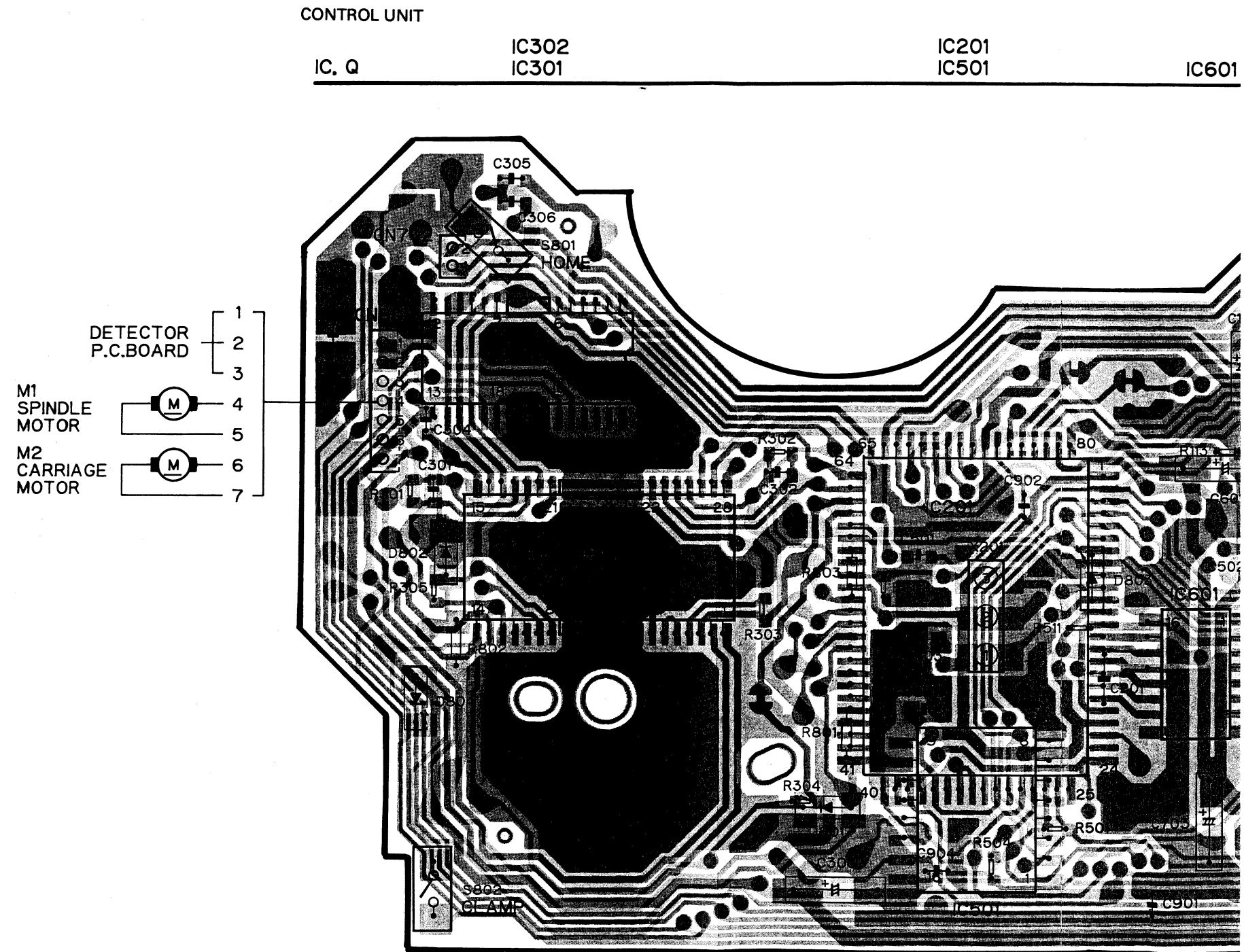
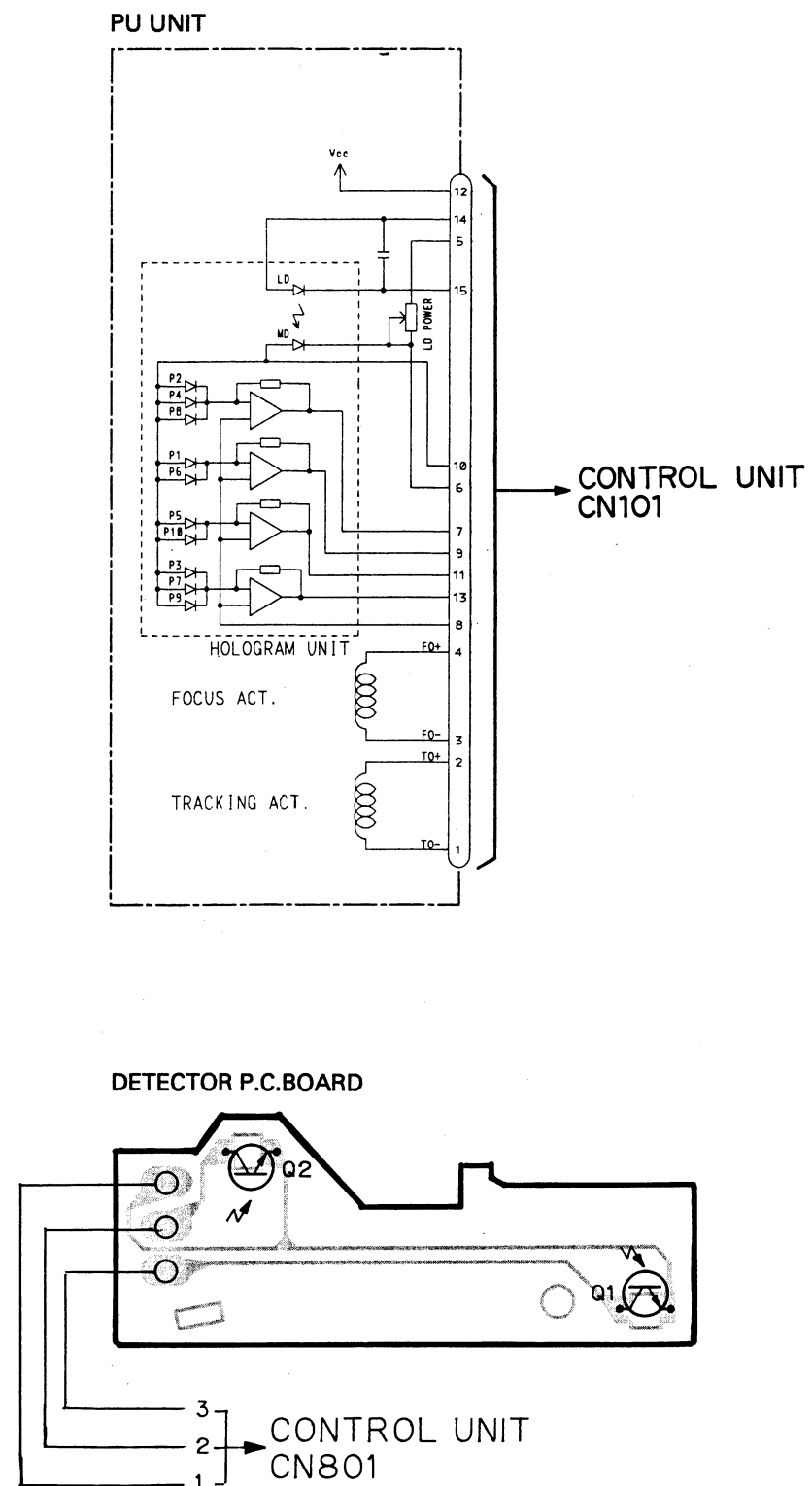
it diagram.



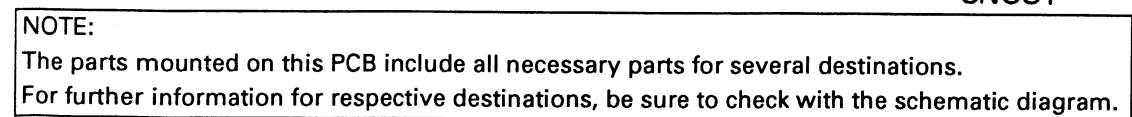
11. CIRCUIT DIAGRAM AND PATTERN

11.1 CD MECHANISM MODULE

● Connection Diagram

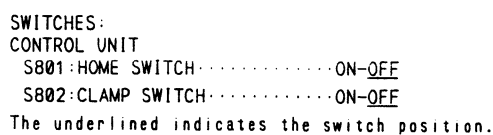


NOTE:
The parts mount
For further infor



35

4



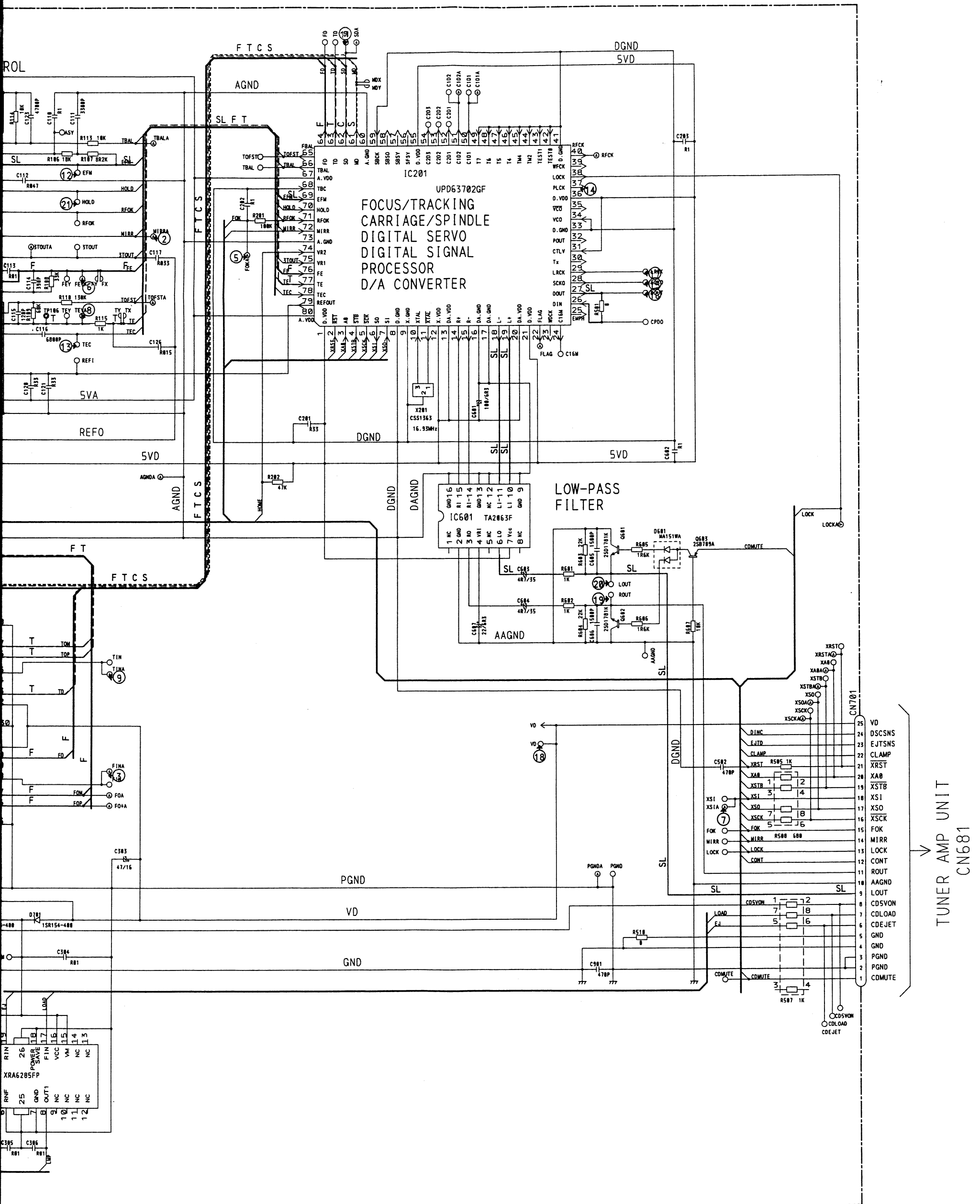
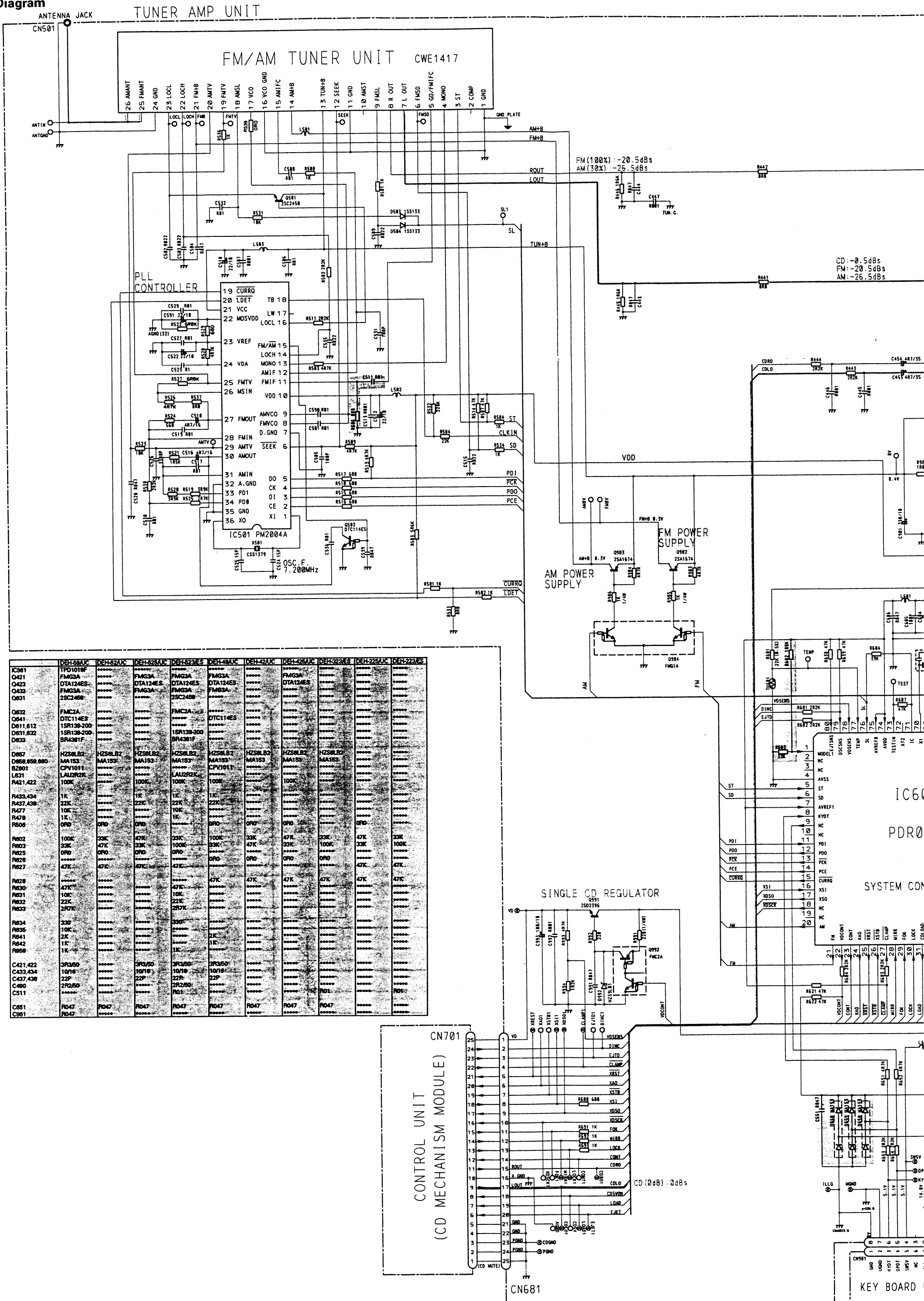


Fig. 8

11.2 TUNER AMP UNIT

● Circuit Diagram



| | DEH-59AUC | DEH-52AUC | DEH-525AUC | DEH-49AUC | DEH-42AUC | DEH-425AUC | DEH-523AUC | DEH-323AUC | DEH-223AUC |
|--------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| C301 | TPD1018F | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A |
| O421 | DTA124ES | DTA124ES | DTA124ES | DTA124ES | DTA124ES | DTA124ES | DTA124ES | DTA124ES | DTA124ES |
| O422 | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A |
| O423 | 2SC2458 | 2SC2458 | 2SC2458 | 2SC2458 | 2SC2458 | 2SC2458 | 2SC2458 | 2SC2458 | 2SC2458 |
| O431 | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A |
| O831 | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A |
| O832 | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A | FMG3A |
| O841 | DTA124ES | DTA124ES | DTA124ES | DTA124ES | DTA124ES | DTA124ES | DTA124ES | DTA124ES | DTA124ES |
| D811,812 | 1SR139-200 | 1SR139-200 | 1SR139-200 | 1SR139-200 | 1SR139-200 | 1SR139-200 | 1SR139-200 | 1SR139-200 | 1SR139-200 |
| D831,832 | 1SR139-200 | 1SR139-200 | 1SR139-200 | 1SR139-200 | 1SR139-200 | 1SR139-200 | 1SR139-200 | 1SR139-200 | 1SR139-200 |
| D833 | BR4381F | BR4381F | BR4381F | BR4381F | BR4381F | BR4381F | BR4381F | BR4381F | BR4381F |
| D857 | HZ58LB2 | HZ58LB2 | HZ58LB2 | HZ58LB2 | HZ58LB2 | HZ58LB2 | HZ58LB2 | HZ58LB2 | HZ58LB2 |
| D858,859,860 | MA153 | MA153 | MA153 | MA153 | MA153 | MA153 | MA153 | MA153 | MA153 |
| B2001 | CP1011 | CP1011 | CP1011 | CP1011 | CP1011 | CP1011 | CP1011 | CP1011 | CP1011 |
| L831 | LAU2R2K | LAU2R2K | LAU2R2K | LAU2R2K | LAU2R2K | LAU2R2K | LAU2R2K | LAU2R2K | LAU2R2K |
| R421,422 | 100K | 100K | 100K | 100K | 100K | 100K | 100K | 100K | 100K |
| R433,434 | 1K | 1K | 1K | 1K | 1K | 1K | 1K | 1K | 1K |
| R437,438 | 22K | 22K | 22K | 22K | 22K | 22K | 22K | 22K | 22K |
| R477 | 10K | 10K | 10K | 10K | 10K | 10K | 10K | 10K | 10K |
| R478 | 1K | 1K | 1K | 1K | 1K | 1K | 1K | 1K | 1K |
| R506 | 0R0 | 0R0 | 0R0 | 0R0 | 0R0 | 0R0 | 0R0 | 0R0 | 0R0 |
| R602 | 100K | 33K | 47K | 33K | 100K | 33K | 47K | 33K | 100K |
| R603 | 33K | 47K | 33K | 100K | 33K | 47K | 33K | 100K | 33K |
| R625 | 0R0 | 0R0 | 0R0 | 0R0 | 0R0 | 0R0 | 0R0 | 0R0 | 0R0 |
| R626 | 47K | 47K | 47K | 47K | 47K | 47K | 47K | 47K | 47K |
| R627 | 47K | 47K | 47K | 47K | 47K | 47K | 47K | 47K | 47K |
| R628 | 47K | 47K | 47K | 47K | 47K | 47K | 47K | 47K | 47K |
| R630 | 47K | 47K | 47K | 47K | 47K | 47K | 47K | 47K | 47K |
| R631 | 10K | 10K | 10K | 10K | 10K | 10K | 10K | 10K | 10K |
| R632 | 22K | 22K | 22K | 22K | 22K | 22K | 22K | 22K | 22K |
| R633 | 2R7K | 2R7K | 2R7K | 2R7K | 2R7K | 2R7K | 2R7K | 2R7K | 2R7K |
| R634 | 330 | 330 | 330 | 330 | 330 | 330 | 330 | 330 | 330 |
| R635 | 10K | 10K | 10K | 10K | 10K | 10K | 10K | 10K | 10K |
| R641 | 2K | 2K | 2K | 2K | 2K | 2K | 2K | 2K | 2K |
| R642 | 1K | 1K | 1K | 1K | 1K | 1K | 1K | 1K | 1K |
| R668 | 1K | 1K | 1K | 1K | 1K | 1K | 1K | 1K | 1K |
| C421,422 | 3R0/50 | 3R0/50 | 3R0/50 | 3R0/50 | 3R0/50 | 3R0/50 | 3R0/50 | 3R0/50 | 3R0/50 |
| C433,434 | 10/16 | 10/16 | 10/16 | 10/16 | 10/16 | 10/16 | 10/16 | 10/16 | 10/16 |
| C437,438 | 22P | 22P | 22P | 22P | 22P | 22P | 22P | 22P | 22P |
| C480 | 2R2/50 | 2R2/50 | 2R2/50 | 2R2/50 | 2R2/50 | 2R2/50 | 2R2/50 | 2R2/50 | 2R2/50 |
| C511 | 0R0 | 0R0 | 0R0 | 0R0 | 0R0 | 0R0 | 0R0 | 0R0 | 0R0 |
| C851 | R047 | R047 | R047 | R047 | R047 | R047 | R047 | R047 | R047 |
| C951 | R047 | R047 | R047 | R047 | R047 | R047 | R047 | R047 | R047 |

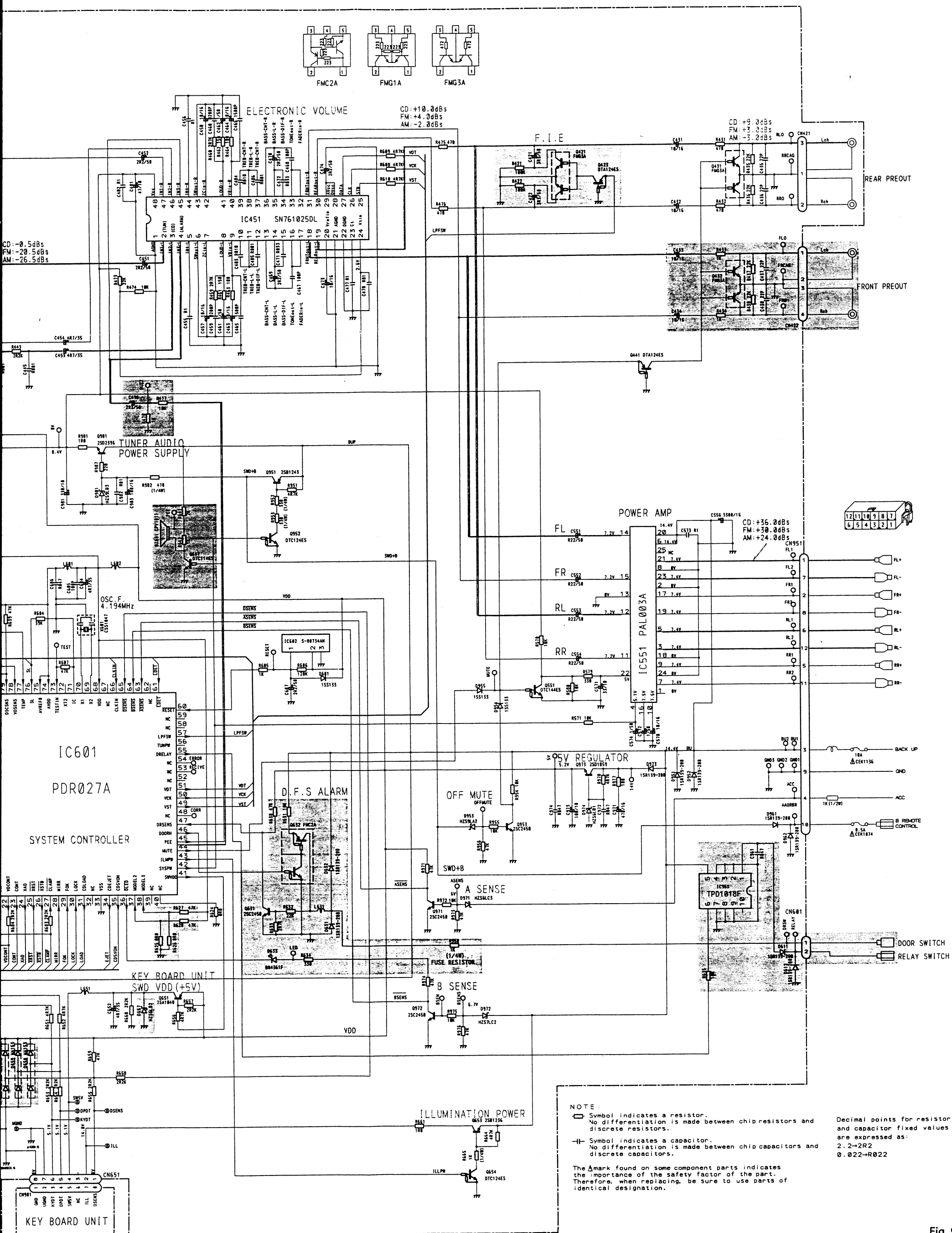
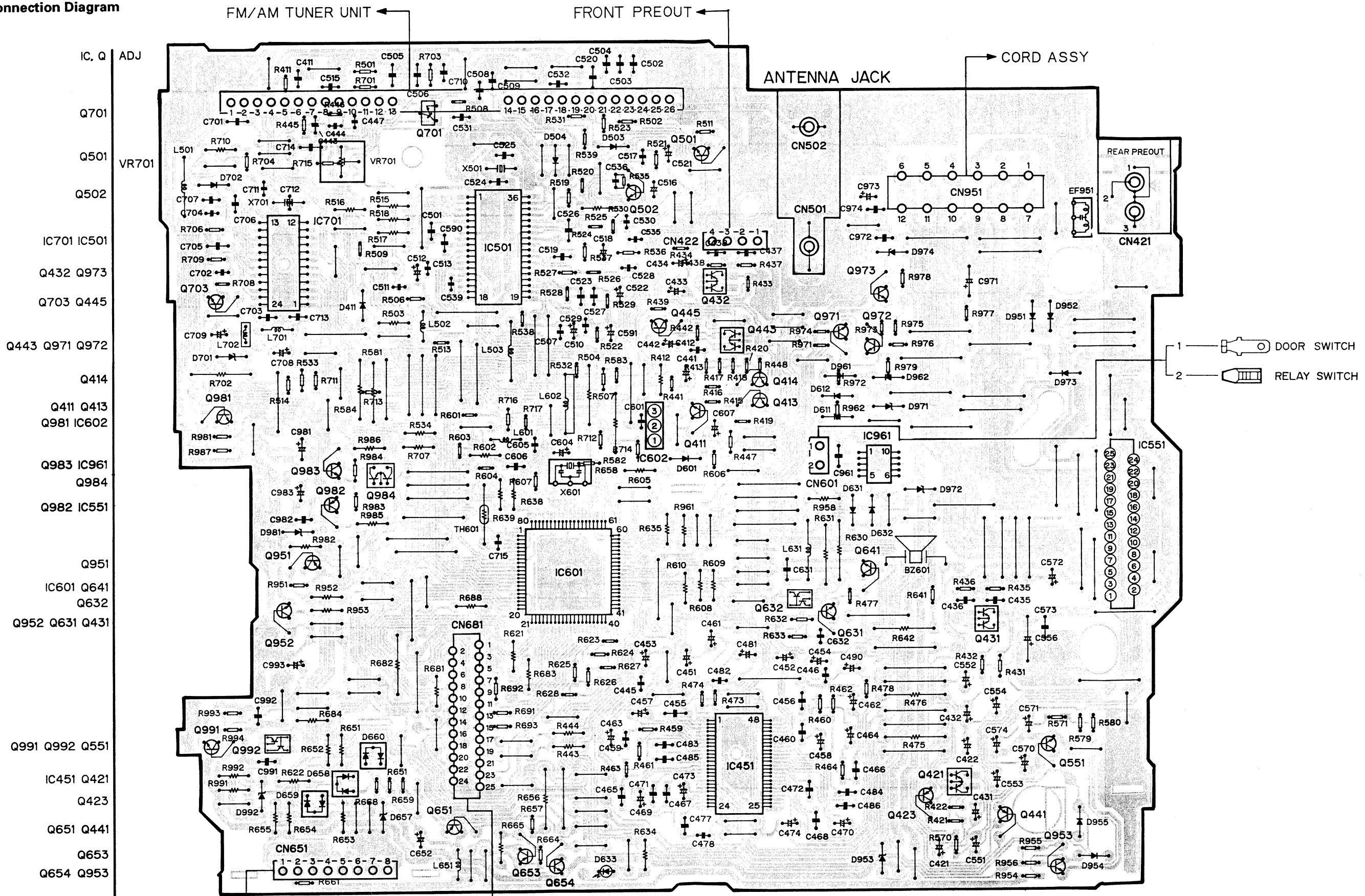


Fig. 9

● Connection Diagram

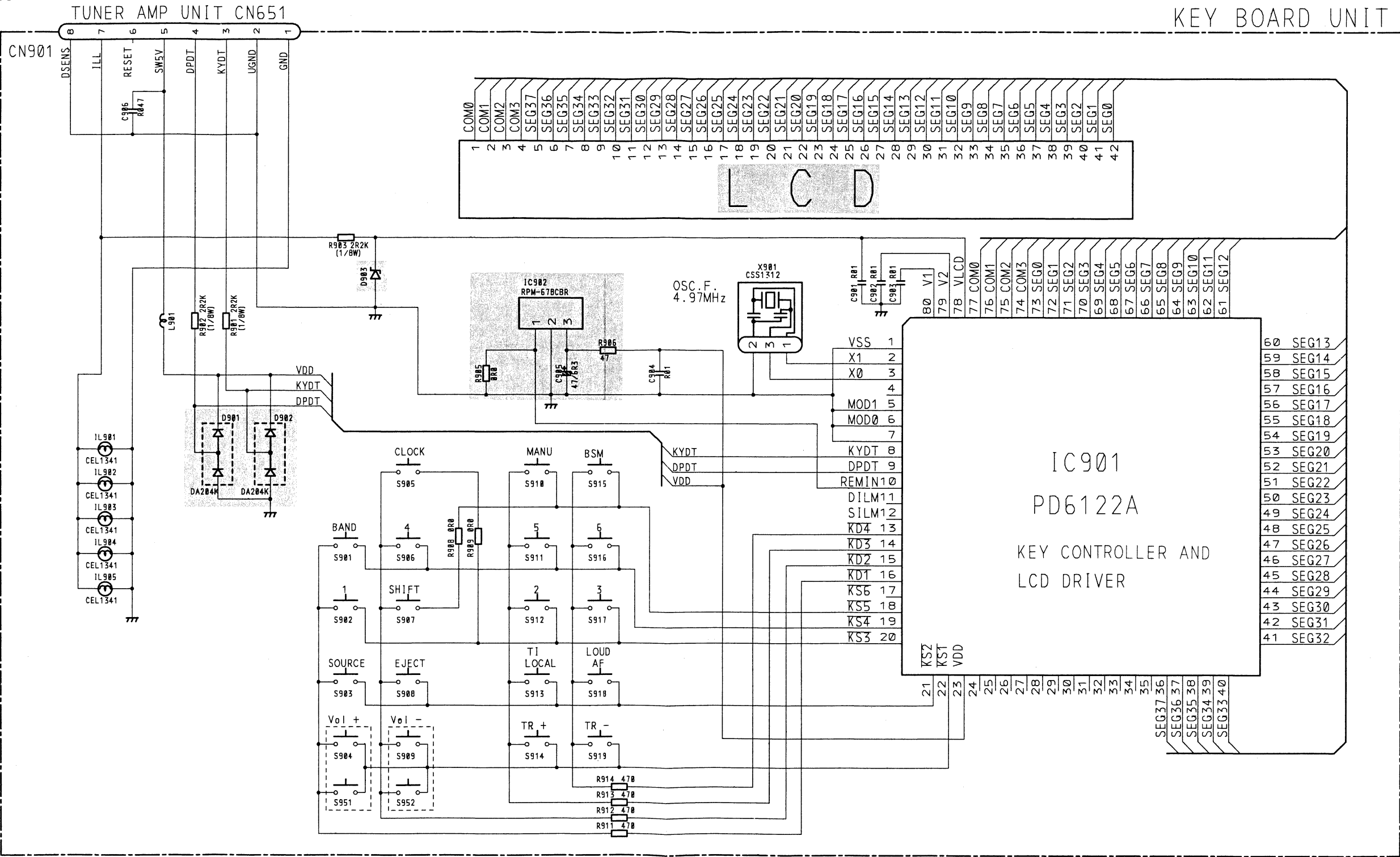


NOTE:
The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.

fig. 10

11.3 KEY BOARD UNIT

● Circuit Diagram



| | | | |
|-----------|--|--|--------------------------|
| | DEH-523/ES DEH-525/UC DEH-52/UC DEH-59/UC | DEH-323/ES DEH-425/UC DEH-42/UC DEH-49/UC | DEH-223/ES DEH-225/UC |
| IC902 | RPM-678CBR | DA204K | MA3056L |
| D901, 902 | DA204K | MA3056L | MA3056L |
| LCD | CAW1329 | CAW1330 | CAW1330 |
| R905 | ..... | 0R0 | 0R0 |
| R906 | 47 | ..... | ..... |
| C905 | 47/6R3 | ..... | ..... |

NOTE :

□ Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

—||— Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

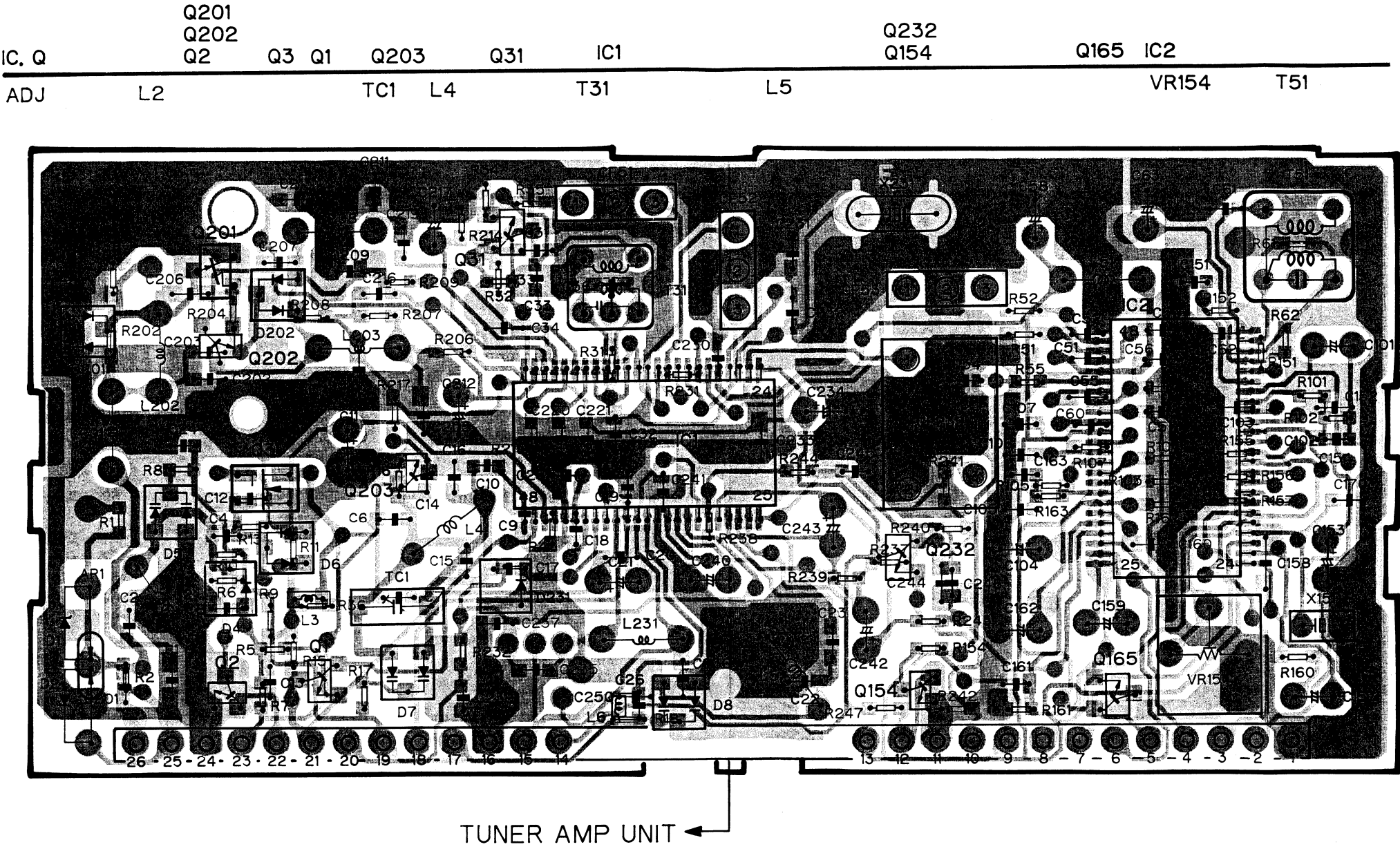
Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

Fig. 11

TUNER AMP UNIT



● Connection Diagram



NOTE:
The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.

Fig. 14

12. EXPLODED VIEW AND PARTS LIST

12.1 CHASSIS(EXCEPT FOR DEH-225/UC AND DEH-223/ES)

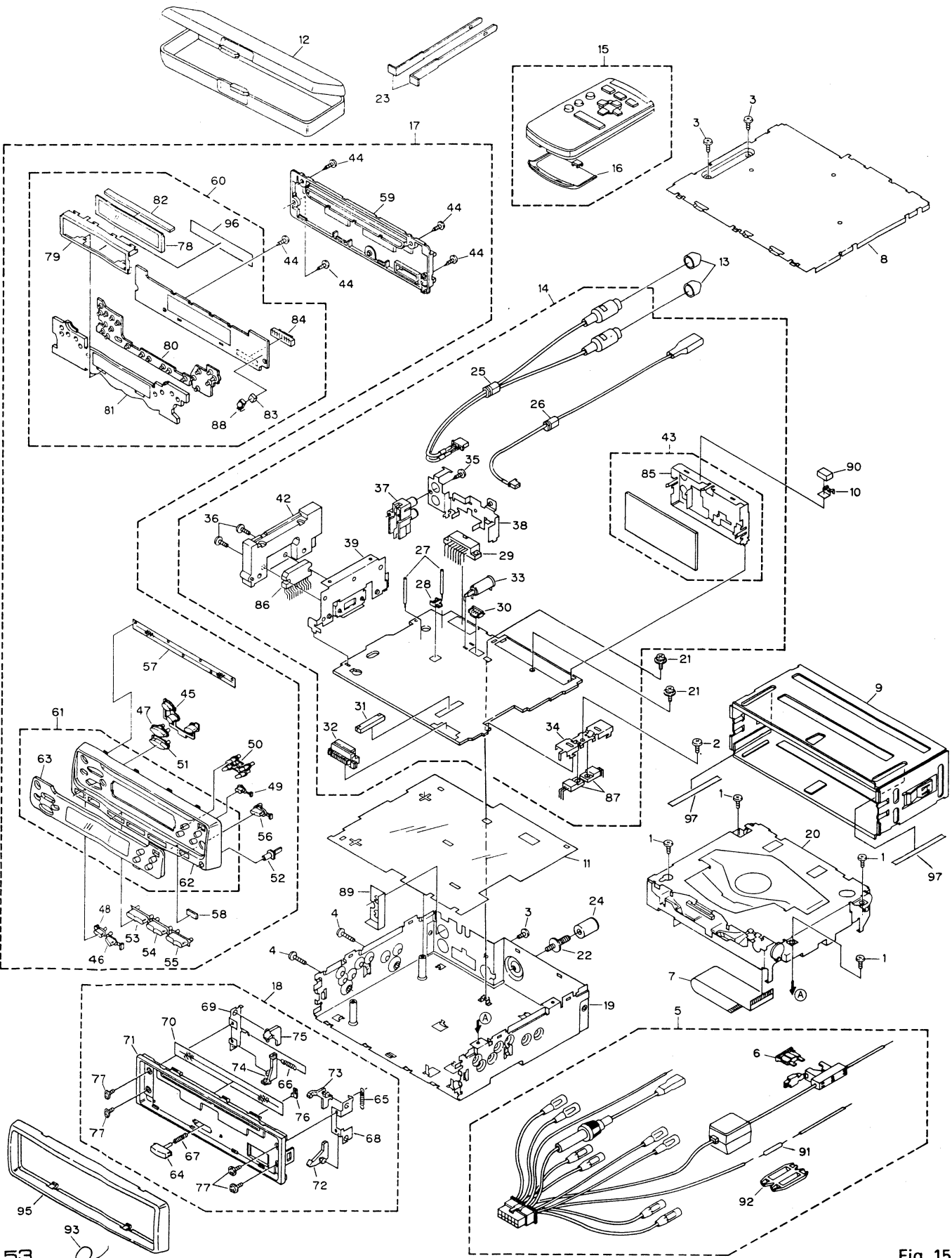


Fig. 15

NOTE:

● Parts marked by " * " are generally unavailable because they are not in our Master Spare Parts List.

● Parts List(DEH-59/UC)

| Mark | No. | Description | Part No. | Mark | No. | Description | Part No. |
|------|-----|-----------------------|--------------|------|------------------|--------------|----------|
| | 1 | Screw | BSZ26P050FMC | 41 | ***** | | |
| | 2 | Screw | BSZ26P080FMC | 42 | Heat Sink | CNR1407 | |
| | 3 | Screw | BSZ30P050FMC | 43 | FM/AM Tuner Unit | CWE1417 | |
| | 4 | Screw | BSZ30P160FMC | 44 | Screw | BPZ20P100FZK | |
| | 5 | Cord | CDE4867 | 45 | Button (S,SEEK) | CAC4469 | |
| | 6 | Fuse | CEK1136 | 46 | Button (BAND) | CAC4470 | |
| | 7 | Cable | CDE4869 | 47 | Button (+) | CAC4471 | |
| | 8 | Case | CNB1989 | 48 | Button (SOURCE) | CAC4472 | |
| | 9 | Holder | CNC4946 | 49 | Button (EJECT) | CAC4473 | |
| | 10 | Holder | CNC6469 | 50 | Button (*,-) | CAC4474 | |
| | 11 | Insulator | CNM4522 | 51 | Button (-) | CAC4542 | |
| | 12 | Case | CNS3860 | 52 | Button (DETACH) | CAC4547 | |
| | 13 | Cap | CNV2680 | 53 | Button (1 2) | CAC4578 | |
| | 14 | Tuner Amp Unit | CWM4485 | 54 | Button (3 4) | CAC4579 | |
| | 15 | Remote Control Assy | CXA7390 | 55 | Button (5 6) | CAC4580 | |
| | 16 | Battery Cover | CNS3383 | 56 | Button (BSM) | CAC4581 | |
| | 17 | Detach Grille Assy | CXA8250 | 57 | Cover | CNM4704 | |
| | 18 | Panel Assy | CXA8585 | 58 | Spacer | CNM4776 | |
| | 19 | Chassis Unit | CXA8229 | 59 | Cover | CNS3694 | |
| | 20 | CD Mechanism Module | CKX5001 | 60 | Key Board Unit | CWM4501 | |
| | 21 | Screw | PSB30P060FMC | 61 | Grille Unit | CXA9112 | |
| | 22 | Screw | CBA1284 | 62 | Grille | CNS4043 | |
| | 23 | Handle | CNC4947 | 63 | Plate | CNS3732 | |
| | 24 | Bush | CNV1009 | 64 | Button | CAC3776 | |
| | 25 | Cord | CDE4770 | 65 | Spring | CBH1834 | |
| | 26 | ***** | | 66 | Spring | CBH1835 | |
| | 27 | Clamper | CEF1005 | 67 | Spring | CBH1858 | |
| | 28 | Plug(CN601)(2P) | CKM1129 | 68 | Bracket | CNC6135 | |
| | 29 | Plug(CN951)(12P) | CKM1225 | 69 | Bracket | CNC6136 | |
| | 30 | Plug(CN422)(4P) | CKS1238 | 70 | Cover | CNM4875 | |
| | 31 | Connector(CN681)(25P) | CKS2228 | 71 | Panel | CNS3695 | |
| | 32 | Connector(CN651)(8P) | CKS2884 | 72 | Arm | CNV4358 | |
| | 33 | Antenna Jack(CN501) | CKX1006 | 73 | Arm | CNV4359 | |
| | 34 | Holder | CNC6132 | 74 | Arm | CNV4437 | |
| | 35 | Screw | BPZ26P080FMC | 75 | Arm | CNV4438 | |
| | 36 | Screw | BSZ26P120FMC | 76 | Lens | CNV4479 | |
| | 37 | Connector(CN421) | CKS3357 | 77 | Screw | PMS20P030FZK | |
| | 38 | Bracket | CNC6130 | 78 | LCD | CAW1329 | |
| | 39 | Holder | CNC6131 | 79 | Holder | CNC6430 | |
| | 40 | ***** | | 80 | Rubber | CNV4354 | |

DEH-59,52,525,49,42,425,225,523,323,223

| Mark No. | Description | Part No. | Mark No. | Description | Part No. |
|----------|----------------------|------------|----------|-------------|-------------|
| 81 | Lens | CNV4355 | 91 | Resistor | RS1/2P102JL |
| 82 | Connector | CNV4449 | 92 | Cap | CNS1472 |
| 83 | Spacer | CNM4740 | 93 | Spring | CBH-865 |
| 84 | Connector(CN901)(8P) | CKS2883 | 94 | Cord | CDE4772 |
| 85 | Holder | CNC6555 | 95 | Panel | CNS3581 |
| 86 | IC(IC551) | PAL003A | 96 | Spacer | CNM4871 |
| 87 | Transistor(Q981,991) | 2SD2396 | * 97 | Spacer | CNM4888 |
| 88 | IC(IC902) | RPM-678CBR | | | |
| 89 | Insulator | CNM4811 | | | |
| 90 | Cushion | CNM4870 | | | |

- The DEH-52/UC, DEH-525/UC, DEH-523/ES, DEH-49/UC, DEH-42/UC, DEH-425/UC, and DEH-323/ES Parts Lists enumerate the parts which differ from those enumerated in the DEH-59/UC Parts List only. The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly. The DEH-59/UC Parts List is given on page 53.

| Mark No. | Description | 59/UC Part No. | 52/UC Part No. | 525/UC Part No. | 523/ES Part No. | 49/UC Part No. | 42/UC Part No. | 425/UC Part No. | 323/ES Part No. |
|----------|---------------------|-------------------|-------------------|--------------------|--------------------|-------------------|-------------------|--------------------|--------------------|
| 12 | Case | CNS3860 | CNS3860 | CNS3860 | CNS3860 | CNS3860 | ..... | CNS3860 | CNS3860 |
| 13 | Cap | CNV2680 | CNV2680 | CNV2680 | CNV2680 | CNV2680 | ..... | ..... | ..... |
| 14 | Tuner Amp Unit | CWM4485 | CWM4487 | CWM4486 | CWM4488 | CWM4489 | CWM4491 | CWM4490 | CWM4494 |
| 15 | Remote Control Assy | CXA7390 | CXA7390 | CXA7390 | CXA7390 | ..... | ..... | ..... | ..... |
| 16 | Battery Cover | CNS3383 | CNS3383 | CNS3383 | CNS3383 | ..... | ..... | ..... | ..... |
| 17 | Detach Grille Assy | CXA8250 | CXA8252 | CXA8251 | CXA8253 | CXA8254 | CXA8256 | CXA8255 | CXA8259 |
| 18 | Panel Assy | CXA8585 | CXA8586 | CXA8586 | CXA8585 | CXA8586 | CXA8586 | CXA8586 | CXA8586 |
| 19 | Chassis Unit | CXA8229 | CXA8231 | CXA8230 | CXA8229 | CXA8230 | CXA8231 | CXA8231 | CXA8231 |
| 25 | Cord | CDE4770 | ..... | CDE4770 | CDE4770 | CDE4770 | ..... | ..... | ..... |
| 26 | Cord | ..... | ..... | ..... | CDE4771 | ..... | ..... | ..... | ..... |
| 27 | Clamper | CEF1005 | ..... | CEF1005 | CEF1005 | CEF1005 | ..... | ..... | ..... |
| 28 | Plug(CN601) | CKM1129 | ..... | ..... | CKM1129 | ..... | ..... | ..... | ..... |
| 30 | Plug(CN422) | CKS1238 | ..... | CKS1238 | CKS1238 | CKS1238 | ..... | ..... | ..... |
| 60 | Key Board Unit | CWM4501 | CWM4501 | CWM4501 | CWM4501 | CWM4502 | CWM4502 | CWM4502 | CWM4502 |
| 61 | Grille Unit | CXA9112 | CXA8284 | CXA8283 | CXA9115 | CXA8286 | CXA8288 | CXA8287 | CXA8291 |
| 62 | Grille | CNS4043 | CNS3718 | CNS3718 | CNS4043 | CNS3718 | CNS3718 | CNS3718 | CNS3718 |
| 63 | Plate | CNS3732 | CNS3734 | CNS3733 | CNS3735 | CNS3736 | CNS3738 | CNS3737 | CNS3740 |
| 76 | Lens | CNV4479 | ..... | ..... | CNV4479 | ..... | ..... | ..... | ..... |
| 78 | LCD | CAW1329 | CAW1329 | CAW1329 | CAW1329 | CAW1330 | CAW1330 | CAW1330 | CAW1330 |
| 83 | Spacer | CNM4740 | CNM4740 | CNM4740 | CNM4740 | ..... | ..... | ..... | ..... |
| 88 | IC(IC902) | PRM-678CBR | PRM-678CBR | PRM-678CBR | PRM-678CBR | ..... | ..... | ..... | ..... |
| 94 | Cord | CDE4772 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

DEH-59,52,525,49,42,425,225,523,323,223

12.2 CHASSIS(DEH-225/UC AND DEH-223/ES)

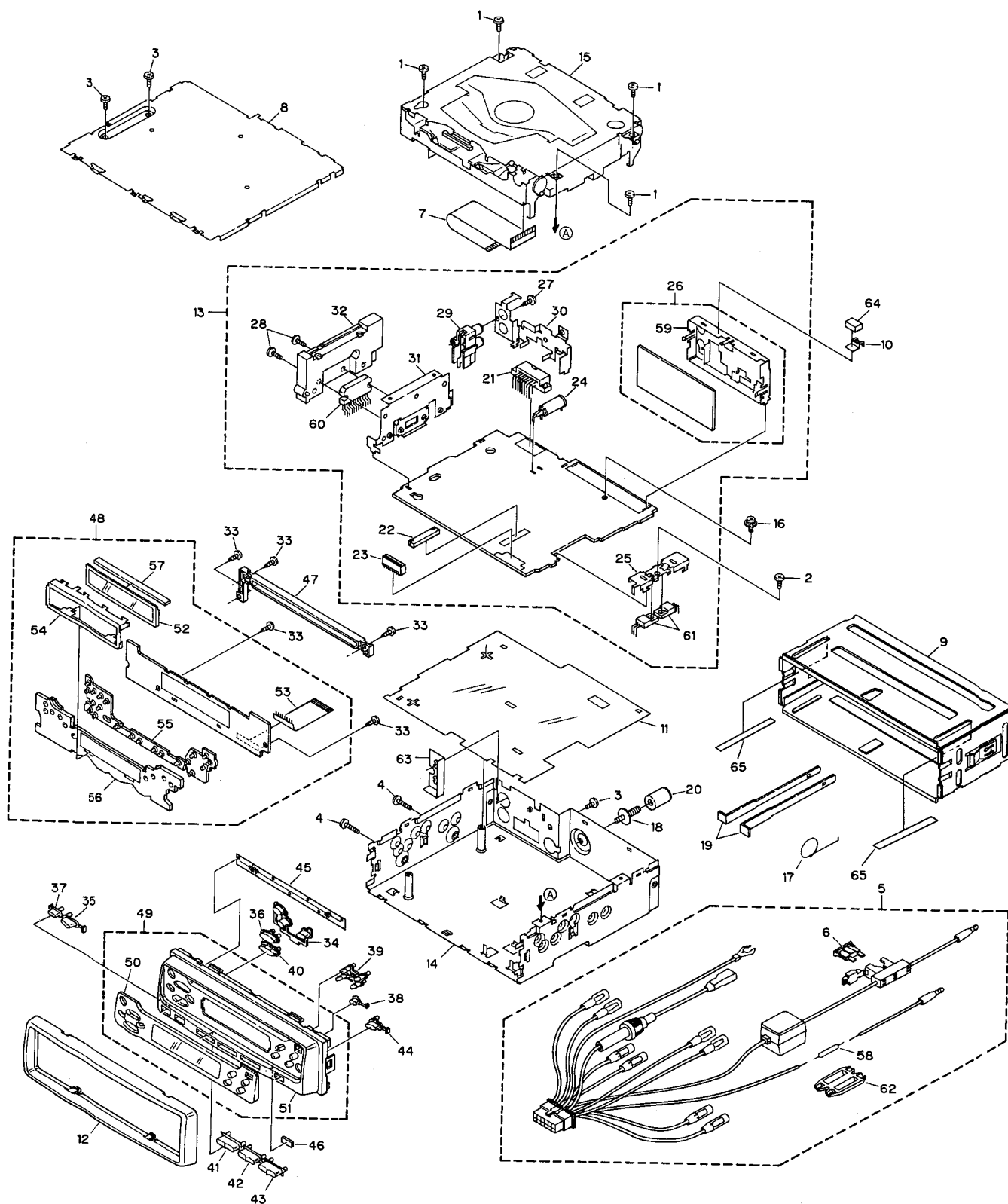


Fig. 16

● Parts List

| Mark | No. | Description | Part No. | Mark | No. | Description | Part No. |
|------|-----|-------------------------|--------------|------|-----|----------------------|-------------|
| | 1 | Screw | BSZ26P050FMC | | 35 | Button(BAND) | CAC4470 |
| | 2 | Screw | BSZ26P080FMC | | 36 | Button(+) | CAC4471 |
| | 3 | Screw | BSZ30P050FMC | | 37 | Button(SOURCE) | CAC4472 |
| | 4 | Screw | BSZ30P160FMC | | 38 | Button(EJECT) | CAC4473 |
| | 5 | Cord | CDE4867 | | 39 | Button(·,-) | CAC4474 |
| | 6 | Fuse | CEK1136 | | 40 | Button(-) | CAC4542 |
| | 7 | Cable | CDE4869 | | 41 | Button(1 2) | CAC4578 |
| | 8 | Case | CNB1989 | | 42 | Button(3 4) | CAC4579 |
| | 9 | Holder | CNC4946 | | 43 | Button(5 6) | CAC4580 |
| | 10 | Holder | CNC6469 | | 44 | Button(BSM) | CAC4581 |
| | 11 | Insulator | CNM4522 | | 45 | Cover | CNM4704 |
| | 12 | Panel | CNS3861 | | 46 | Spacer | CNM4776 |
| | 13 | Tuner Amp Unit(DEH-225) | CWM4495 | | 47 | Holder | CNV4356 |
| | | Tuner Amp Unit(DEH-223) | CWM4497 | | 48 | Key Board Unit | CWM4505 |
| | 14 | Chassis Unit | CXA8529 | | 49 | Grille Unit(DEH-225) | CXA8292 |
| | 15 | CD Mechanism Module | CXK5001 | | | Grille Unit(DEH-223) | CXA8294 |
| | 16 | Screw | PSB30P060FMC | | 50 | Plate(DEH-225) | CNS374 1 |
| | 17 | Spring | CBH-865 | | | Plate(DEH-223) | CNS3743 |
| | 18 | Screw | CBA1284 | | 51 | Grille | CNS3859 |
| | 19 | Handle | CNC4947 | | 52 | LCD | CAW1330 |
| | 20 | Bush | CNV1009 | | 53 | Cable | CDE4868 |
| | 21 | Plug(CN951)(12P) | CKM1225 | | 54 | Holder | CNC6430 |
| | 22 | Connector(CN681)(25P) | CKS2228 | | 55 | Rubber | CNV4354 |
| | 23 | Connector(CN651)(8P) | CKS3380 | | 56 | Lens | CNV4355 |
| | 24 | Antenna Jack(CN501) | CKX1006 | | 57 | Connector | CNV4449 |
| | 25 | Holder | CNC6132 | | 58 | Resistor | RS1/2P102JL |
| | 26 | FM/AM Tuner Unit | CWE1417 | | 59 | Holder | CNC6429 |
| | 27 | Screw | BPZ26P080FMC | | 60 | IC(IC551) | PAL003A |
| | 28 | Screw | BSZ26P120FMC | | 61 | Transistor(Q981,991) | 2SD2396 |
| | 29 | Connector(CN421) | CKS3357 | | 62 | Cap | CNS1472 |
| | 30 | Bracket | CNC6130 | | 63 | Insulator | CNM411 1 |
| | 31 | Holder | CNC6131 | | 64 | Cushion | CNM4387 |
| | 32 | Heat Sink | CNR1407 | * | 65 | Spacer | CNM4488 |
| | 33 | Screw | BPZ20P100FMC | | | | |
| | 34 | Button(S,SEEK) | CAC4469 | | | | |

12.3 CD MECHANISM MODULE

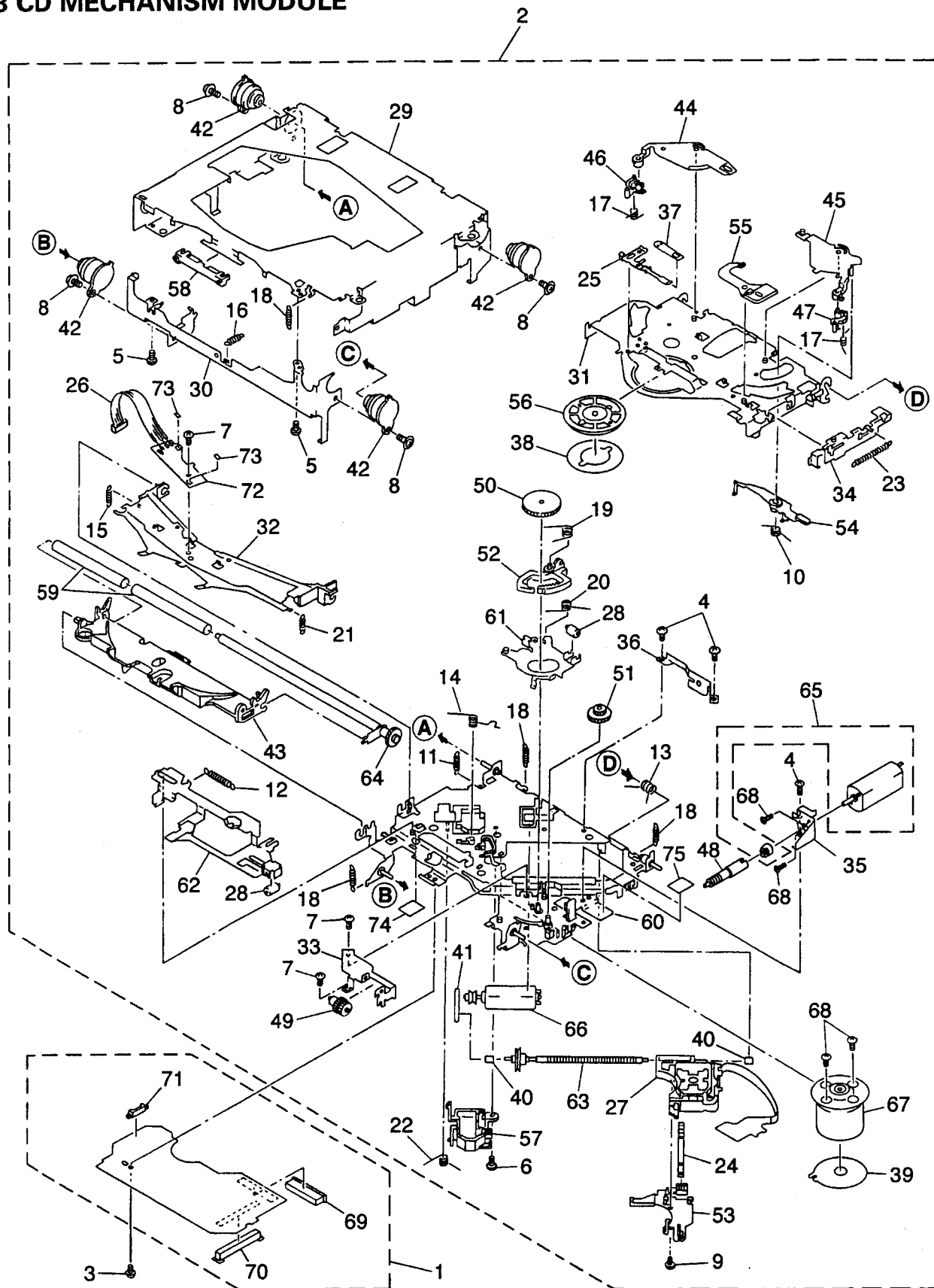


Fig. 17

● **Parts List**

| Mark No. | Description | Part No. | Mark No. | Description | Part No. |
|----------|-------------------|--------------|----------|-------------------------|--------------|
| 1 | Control Unit | CWX1889 | 46 | Arm | CNV4124 |
| 2 | CD Mechanism Unit | CXA8870 | 47 | Arm | CNV4125 |
| 3 | Screw | PMS26P035FMC | 48 | Gear | CNV4128 |
| 4 | Screw | BMZ20P030FMC | 49 | Gear | CNV4129 |
| 5 | Screw | BSZ20P040FMC | 50 | Gear | CNV4130 |
| 6 | Screw(M2×3) | CBA1077 | 51 | Gear | CNV4131 |
| 7 | Screw(M2×2) | CBA1250 | 52 | Arm | CNV4136 |
| 8 | Screw(M2×5) | CBA1296 | 53 | Holder | CNV4663 |
| 9 | Screw(M2×3.85) | CBA1362 | 54 | Arm | CNV4138 |
| 10 | Spring | CBH1916 | 55 | Arm | CNV4139 |
| 11 | Spring | CBH1724 | 56 | Clamper | CNV4140 |
| 12 | Spring | CBH1727 | 57 | Holder | CNV4664 |
| 13 | Spring | CBH1729 | 58 | Guide | CNV4484 |
| 14 | Spring | CBH1730 | 59 | Roller | CNV4509 |
| 15 | Spring | CBH1731 | 60 | Chassis Unit | CXA8561 |
| 16 | Spring | CBH1732 | 61 | Arm Unit | CXA8565 |
| 17 | Spring | CBH1736 | 62 | Lever Unit | CXA8567 |
| 18 | Spring | CBH1745 | 63 | Screw Unit | CXA8699 |
| 19 | Spring | CBH1832 | 64 | Gear Unit | CXA8701 |
| 20 | Spring | CBH1833 | 65 | Load Motor Unit(M3) | CXA8702 |
| 21 | Spring | CBH1848 | 66 | CRG Motor Unit(M2) | CXA8986 |
| 22 | Spring | CBH1849 | 67 | Motor Unit(M1) | CXA9100 |
| 23 | Spring | CBH1863 | 68 | Screw | JFZ20P025FMC |
| 24 | Spring | CBL1214 | 69 | Connector(CN101) | CKS1953 |
| 25 | Spring | CBL1269 | 70 | Connector(CN701) | CKS2774 |
| 26 | Connector(CN1) | CDE4576 | 71 | Connector(CN801) | CKS2196 |
| 27 | PU Unit | CGY1070 | * 72 | Gathering P.C.Board | CNX2445 |
| 28 | Roller | CLA2627 | 73 | Photo-transistor(Q1, 2) | CPT-230S-X |
| 29 | Frame | CNC5796 | 74 | Sheet | CNM4873 |
| 30 | Frame | CNC5797 | 75 | Cushion | CNM3917 |
| 31 | Arm | CNC5799 | | | |
| * 32 | Arm | CNC5801 | | | |
| 33 | Bracket | CNC5871 | | | |
| 34 | Lever | CNC6054 | | | |
| 35 | Bracket | CNC6056 | | | |
| * 36 | Bracket | CNC6376 | | | |
| 37 | Spacer | CNM3315 | | | |
| 38 | Sheet | CNM4849 | | | |
| 39 | P.C.Board | CNP4230 | | | |
| 40 | Bearing | CNR1415 | | | |
| 41 | Belt | CNT1071 | | | |
| 42 | Damper | CNV3974 | | | |
| 43 | Arm | CNV4120 | | | |
| 44 | Arm | CNV4122 | | | |
| 45 | Arm | CNV4123 | | | |

13. PACKING METHOD

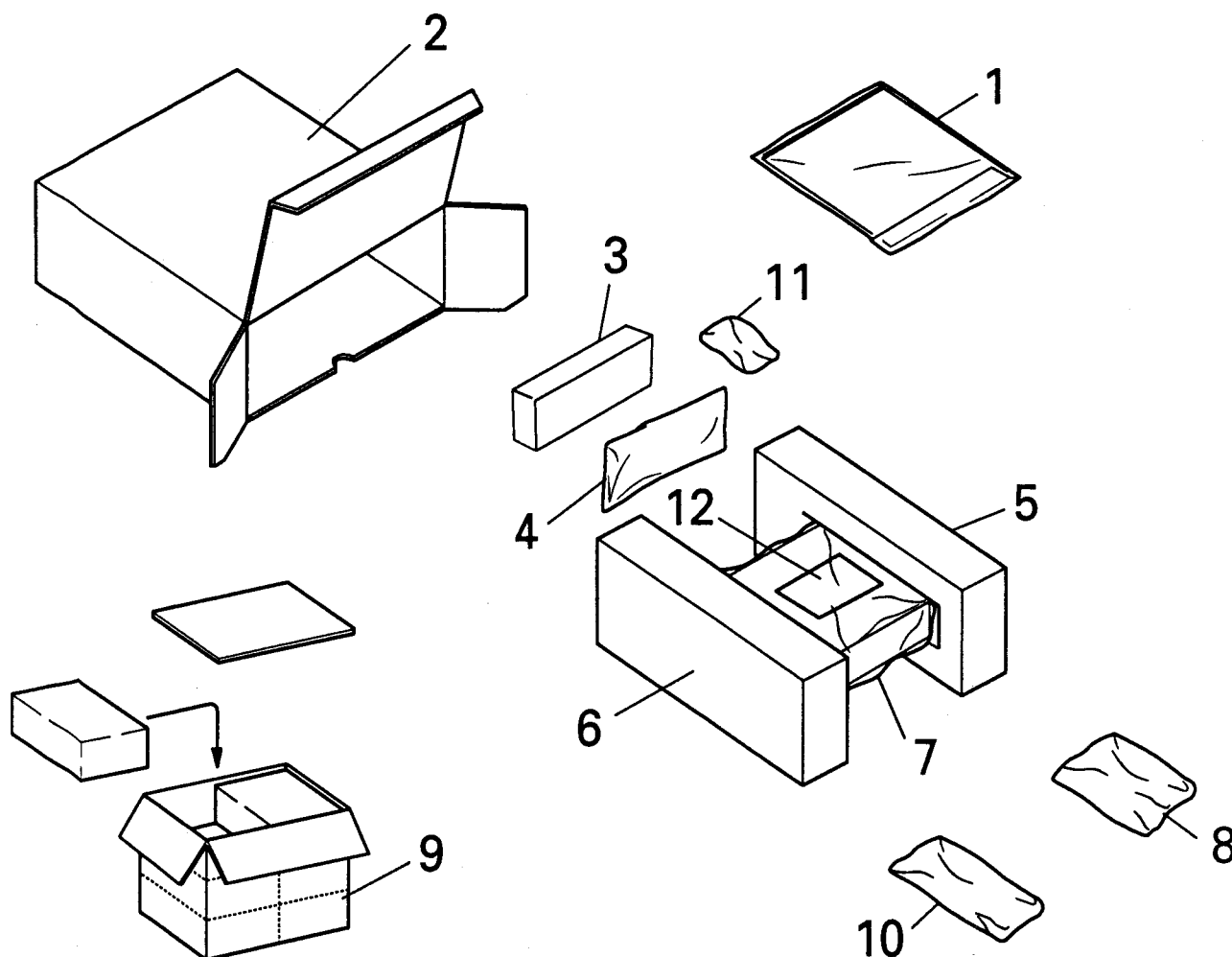


Fig.18

● Parts List(DEH-59/UC)

| Mark | No. | Description | Part No. |
|------|-----|---------------------|----------|
| | 1-1 | Owner's Manual | CRD1946 |
| | 1-2 | Installation Manual | CRD1983 |
| * | 1-3 | Label | CRW1343 |
| * | 1-4 | Warranty Card | CRY1070 |
| | 1-5 | ..... |  |
| | 1-6 | Polyethylene Bag | CEG1116 |
| | 2 | Carton | CHG2848 |
| | 3 | Case | CNS3860 |
| | 4 | Cord | CDE4867 |
| | 5 | Protector | CHP1769 |

| Mark | No. | Description | *: Non Spare Part Part No. |
|------|-----|---------------------|-------------------------------|
| | 6 | Protector | CHP1768 |
| | 7 | Polyethylene Bag | CEG1173 |
| | 8 | Accessory Assy | CEA1918 |
| | 9 | Contain Box | CHL2848 |
| | 10 | Accessory Assy | CEA1473 |
| | 11 | Remote Control Assy | CXA7390 |
| * | 12 | Caution Card | CRP1145 |

● Owner's Manual

| Model | Part No. | Language |
|-----------------------|----------|----------------------------------|
| DEH-59/UC | CRD1946 | English, French |
| DEH-52/UC, DEH525/UC | CRD1948 | English, French, Spanish |
| DEH-523/ES | CRD1951 | English, French, Spanish, Arabic |
| DEH-49/UC | CRD1947 | English, French |
| DEH-42/UC, DEH-425/UC | CRD1949 | English, French, Spanish |
| DEH-323/ES | CRD1952 | English, French, Spanish, Arabic |
| DEH-225/UC | CRD1950 | English, French, Spanish |
| DEH-223/ES | CRD1953 | English, French, Spanish, Arabic |

● **Installation Manual**

| Model | Part No. | Language |
|--|----------|----------------------------------|
| DEH-59/UC | CRD1983 | English, French |
| DEH-52/UC, DEH-42/UC, DEH-425/UC DEH-225/UC | CRD1987 | English, French, Spanish |
| DEH-525/UC | CRD1984 | English, French, Spanish |
| DEH-523/ES | CRD1985 | English, French, Spanish, Arabic |
| DEH-49/UC | CRD1986 | English, French |
| DEH-323/ES, DEH-223/ES | CRD1988 | English, French, Spanish, Arabic |

● **Accessory Assy**

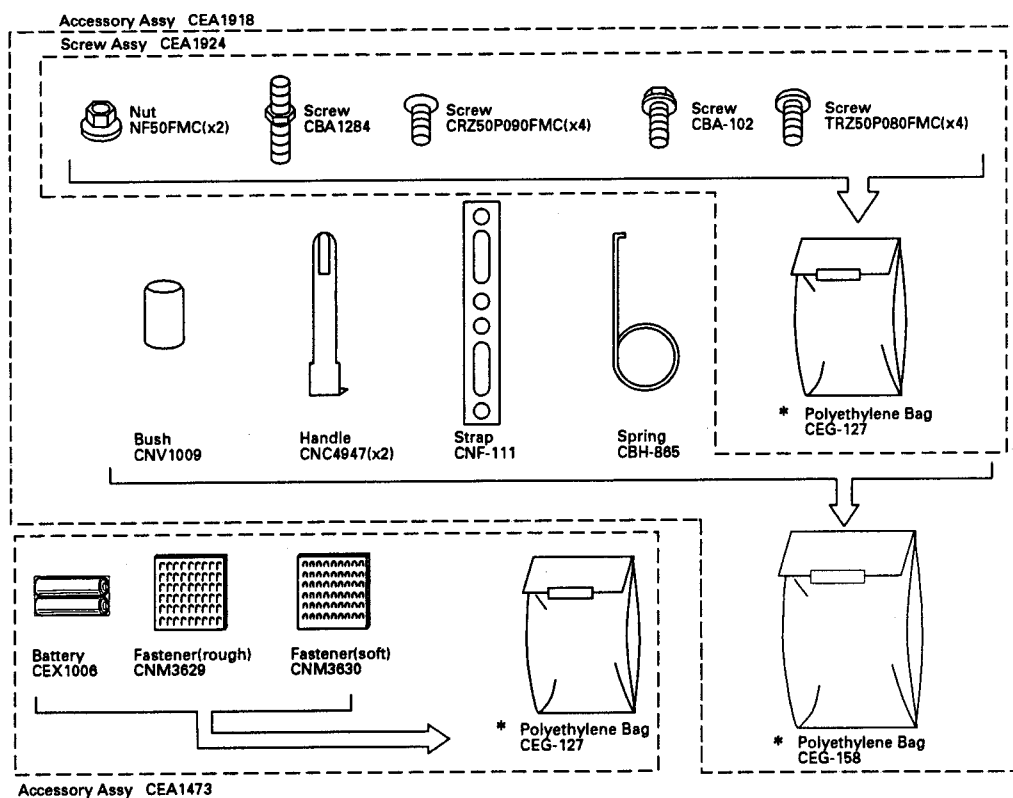


Fig. 19

- The DEH-52/UC, DEH-525/UC, DEH-523/ES, DEH-49/UC, DEH-42/UC, DEH-425/UC, DEH-323/ES, DEH-225/UC and DEH-223/ES Parts Lists enumerate the parts which differ from those enumerated in the DEH-59/UC Parts List only. The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly. The DEH-59/UC Parts List is given on page 60.

| Mark | No. | Description | DEH-59/UC Part No. | DEH-52/UC Part No. | DEH-525/UC Part No. | DEH-523/ES Part No. | DEH-49/UC Part No. | DEH-42/UC Part No. | DEH-425/UC Part No. |
|------|-----|---------------------|-----------------------|-----------------------|------------------------|------------------------|-----------------------|-----------------------|------------------------|
| | 1-1 | Owner's Manual | CRD1946 | CRD1948 | CRD1948 | CRD1951 | CRD1947 | CRD1949 | CRD1949 |
| | 1-2 | Installation Manual | CRD1983 | CRD1987 | CRD1984 | CRD1985 | CRD1986 | CRD1987 | CRD1987 |
| * | 1-3 | Label | CRW1343 | ..... | ..... | ..... | ..... | ..... | ..... |
| * | 1-4 | Warranty Card | CRY1070 | ..... | ..... | ..... | (CRY1070) | ..... | ..... |
| * | 1-5 | Card | ..... | ARY1048 | ARY1048 | ..... | ..... | ARY1048 | ARY1048 |
| | 2 | Carton | CHG2848 | CHG2847 | CHG2846 | CHG2845 | CHG2855 | CHG2854 | CHG2853 |
| | 7 | Polyethylene Bag | CEG1173 | CEG1173 | CEG1173 | CEG-162 | CEG1173 | CEG1173 | CEG1173 |
| | 8 | Accessory Assy | CEA1918 | CEA1918 | CEA1918 | CEA2002 | CEA1918 | CEA1918 | CEA1918 |
| | 9 | Contain Box | CHL2848 | CHL2847 | CHL2846 | CHL2845 | CHL2855 | CHL2854 | CHL2853 |
| | 10 | Accessory Assy | CEA1473 | CEA1473 | CEA1473 | CEA1473 | ..... | ..... | ..... |
| | 11 | Remote Control Assy | CXA7390 | CXA7390 | CXA7390 | CXA7390 | ..... | ..... | ..... |

DEH-59,52,525,49,42,425,225,523,323,223

| Mark | No. | Description | DEH-59/UC | DEH-323/ES | DEH-225/UC | DEH-223/ES |
|------|-----|---------------------|-----------|------------|------------|------------|
| | | | Part No. | Part No. | Part No. | Part No. |
| | 1-1 | Owner's Manual | CRD1946 | CRD1952 | CRD1950 | CRD1953 |
| | 1-2 | Installation Manual | CRD1983 | CRD1988 | CRD1987 | CRD1988 |
| * | 1-3 | Label | CRW1343 | ..... | ..... | ..... |
| * | 1-4 | Warranty Card | CRY1070 | ..... | ..... | ..... |
| * | 1-5 | Card | ..... | ..... | ARY1048 | ..... |
| | 2 | Carton | CHG2848 | CHG2852 | CHG2856 | CHG2857 |
| | 7 | Polyethylene Bag | CEG1173 | CEG-162 | CEG1173 | CEG-162 |
| | 8 | Accessory Assy | CEA1918 | CEA2002 | CEA1918 | CEA2002 |
| | 9 | Contain Box | CHL2848 | CHL2852 | CHL2856 | CHL2857 |
| | 10 | Accessory Assy | CEA1473 | ..... | ..... | ..... |
| | 11 | Remote Control Assy | CXA7390 | ..... | ..... | ..... |